

LOCKHEED MARTIN

DATE: 05 August 2008
TO: David Mickunas, U.S. EPA/ERT Work Assignment Manager
THROUGH: Jeffrey Bradstreet, REAC Air Section Leader *JWB*
FROM: John Wood, REAC Task Leader *JW*
SUBJECT: DELFASCO FORGE SITE, GRAND PRAIRIE, TX
WORK ASSIGNMENT 0-324 - RESIDENTIAL SAMPLING TRIP REPORT

BACKGROUND

The Delfasco Forge Site is a property in Grand Prairie, TX which has contaminated soils and groundwater. Delfasco Forge specialized in contract metal fabrication and forging manufacturing. As part of its manufacturing process, Delfasco used trichloroethene (TCE) and other chemicals as degreasers on its metal products. These chemical solvents and substances were spilled onto the ground and surface areas at the facility. Subsequently, these solvents leached into the groundwater and contaminated it.

The groundwater flows from the Site and northeast. Groundwater monitoring has been conducted and the results show that the groundwater in the adjacent community is contaminated.

OBSERVATIONS AND ACTIVITIES

REAC personnel mobilized to the site on 19 May 2008, to perform sub-slab soil gas and air sampling in residences near the Delfasco Forge Site. Sampling and monitoring activities took place from 20 through 23 May 2008. A large majority of the residential units had crawl spaces rather than slab foundations, so the trace atmospheric gas analyzer mass spectrometer/ mass spectrometer (TAGA MS/MS) was used to perform preliminary surveys of the crawl spaces and one interior room in each of 15 residences (Units 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 016, and 017). A preliminary survey was conducted of the interior only in Unit 015, since it didn't have a crawl space. One Tedlar® bag sample was collected from each of the sub-slab probes in three residences (Units 001, 015, and 018), and those samples were analyzed using the TAGA in a direct analysis mode. SUMMA® canisters were used to collect 24-hour integrated samples from the three sub-slab probes. The Environmental Protection Agency (EPA) used the results of the on-site TAGA crawl space monitoring and the TAGA analyses of Tedlar® bag samples of sub-slab soil gas to select five residences (Units 003, 008, 009, 013, and 016) for a more comprehensive evaluation. SUMMA® canisters were used to collect 24-hour crawl space, and indoor air samples from the five selected residences. Ambient air samples were also collected in SUMMA® canisters during this period. The SUMMA® canisters were sent to Columbia Analytical Services for analysis. The TAGA was used to monitor the interiors of the five selected residences.

Sub-slab Sampling with Tedlar® Bags

Sub-slab probes were installed in three residences (Units 001, 015, and 018), and a 1-liter (L) Tedlar® bag grab sample was collected from each of those probes on 20 through 22 May 2008. The Tedlar® bag grab samples were transported to the TAGA Mobile Laboratory for rapid analysis by TAGA. The results of these analyses were reported to the Work Assignment Manager (WAM) verbally on an ongoing basis. Details of the analyses are presented in Appendix A.

Sub-slab, Crawl Space, Indoor Air, and Ambient Air Sampling with SUMMA® Canisters

Crawl space SUMMA® canister sampling was performed on 20 May 2008 under 15 residences (Units 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 016, and 017) starting after preliminary crawl-space monitoring was conducted using the TAGA. Sub-slab SUMMA® canister sampling was performed starting on 20 May 2008 for Unit 015, 22 May 2008 for Unit 001, and 23 May 2008 for Unit 018. All SUMMA canister samples were collected at a constant flow rate over a period of 24 hours.

Crawl space and indoor SUMMA® canister sampling was performed starting on 23 May 2008 in the five units (Units 003, 008, 009, 013, and 016) selected for further evaluation. One or two SUMMA® canister samples were collected from each crawl space, and one or two canister samples were collected from the living area within each selected residence at locations selected by the WAM. Ambient air samples were also collected.

A 4 to 5-L time-weighted average (TWA) sample was collected during each 24-hour sampling event. Sub-slab, crawl space, indoor, and ambient air sample analysis was performed in accordance with EPA Modified Method TO-15, *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*. The target compound list (TCL) included vinyl chloride, cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichloroethene, trichloroethene, and tetrachloroethene, as per the WAM's instruction. The samples collected in the SUMMA® canisters were properly documented and shipped to Columbia Analytical Services for analysis. SUMMA® canister sampling chains of custody (COCs) are provided in Appendix B.

Tedlar® Bag Analysis, and Crawl Space and Indoor Air Monitoring Using the TAGA

Preliminary crawl space and indoor air monitoring were performed by the TAGA MS/MS on 20 May 2008 in thirteen units (Units 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, and 014). Indoor air monitoring only was performed on 20 May 2008 in Unit 015, because there was no crawl space. Additionally, one Tedlar® bag sample of sub-surface gas from Unit 15 was analyzed at the end of the day on 20 May. Preliminary crawl space and indoor air monitoring was performed using the TAGA MS/MS on 21 May 2008 in two residences (Units 016, and 017). Additionally one Tedlar® bag sample of sub-surface gas from Unit 001 was analyzed on 21 May 2008. Unit surveys were performed on 22 May 2008 in the five residences (Units 003, 008, 009, 013, and 016) selected by the EPA for further evaluation. Additionally one Tedlar® bag sample of sub-surface gas from Unit 018 was analyzed on 22 May 2008. Air monitoring and Tedlar® bag analysis for dichloroethene (DCE), TCE, and tetrachloroethene (PCE) were performed in accordance with the REAC Draft Standard Operating Procedure (SOP) # 1711, *Trace Atmospheric Gas Analyzer (TAGA) IIe Operations*. Real-time monitoring for the target compounds was performed using a selected ion technique. Details of the TAGA air monitoring events are provided in Appendix A.

ANALYTICAL RESULTS

The Final Analytical TAGA Report is included in Appendix A. The Final Analytical Report is included in Appendix B.

Preliminary Air Surveys Conducted Using the TAGA MS/MS

The TAGA, with its 250-foot Teflon hose attached, was used to conduct preliminary surveys at 15 residences with crawl spaces (Units 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 016, and 017). The first 13 of the preliminary surveys of residences with crawl spaces were conducted on 20 May 2008, and the last two were conducted on 21 May. Additionally, a preliminary survey of the indoor air only was conducted on 20 May in Unit 015. TCE was the only target compound detected above 0.33 ppbv or its compound-specific quantitation limit (QL) in a crawl space. The residences with the highest crawl space concentrations of TCE were: Unit 003, 16 parts per billion by volume (ppbv); Unit 008, 5.5 ppbv; Unit 009, 5.4 ppbv; Unit 012, 2.5 ppbv; Unit 013, 2.0 ppbv, and Unit 016, 13 ppbv. The results of the preliminary surveys are provided in the Final Analytical TAGA Report in Appendix A.

Sub-slab Air Sampling with Tedlar® Bags

Three samples of sub-surface gas were collected in 1-Liter Tedlar® bags, one each on 20 May, 21 May and 22 May 2008. The Tedlar® bag analyses of sub-surface gas were performed by the TAGA, and the results of the analyses reported to the WAM.

Of the Tedlar® bag samples of sub-surface gas analyzed, the highest concentration of TCE was detected at 20 ppbv in Unit 018, in the sample collected on 22 May 2008. The highest concentration of PCE was detected at 5.3 ppbv in Unit 015, in the sample collected on 20 May 2008. The results of the Tedlar® bag analyses are provided in the Final Analytical TAGA Report in Appendix A.

Sub-slab, Crawl Space, and Ambient Air Sampling with SUMMA® Canisters

SUMMA® canister samples were collected after the TAGA preliminary surveys from the crawl spaces of 15 residences (Units 002, 003, 004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014, 016, and 017). Additionally, sub-slab SUMMA® canister samples were collected from three residences without crawl spaces (Units 001, 015, and 018). The sub-slab sample from Unit 015 was inadvertently identified on the chain of custody (COC) as being a crawl space sample. SUMMA® canister samples were also collected after the TAGA Unit surveys of the crawl spaces and indoor air of five residences (Units 003, 008, 009, 013, and 016). Of the SUMMA® canister samples analyzed, TCE was detected at the highest concentration, 33 ppbv, in the crawl space sample collected in Unit 003 on 22 May 2008. PCE was detected at 18 ppbv in one sample, the sub-slab sample from Unit 015. PCE was not detected above 0.50 ppbv in any of the other samples. No other target compound was observed above 0.50 ppbv in any of the samples. The Final Analytical Report is included in Appendix B.

Indoor Air Surveys Conducted Using the TAGA MS/MS

Indoor air surveys were conducted on five selected units. The highest indoor air concentration were; TCE, 25 ppbv, and PCE, 0.25 ppbv, both in Unit 3, in bathroom one.

The Final Analytical TAGA Report is included in Appendix A.

Comparison of Analytical Results

Table 1 contains a comparison of the crawl space results for one-minute TAGA monitoring averages with 24-hour SUMMA® canister samples. Figure 1 provides a graphical depiction of the data provided in Table 1. Table 2 contains a comparison of indoor air results for one-minute TAGA monitoring averages in the same rooms as the corresponding 24-hour SUMMA® canister samples for the five residences selected for additional monitoring. Figure 2 provides a graphical depiction of the data provided in Table 2.

The comparison of crawl space data demonstrates a correlation coefficient of 0.919, with the TAGA one-minute monitoring providing approximately 20% lower concentrations of TCE than the 24-hour SUMMA® canister samples. The comparison of indoor air data demonstrates a correlation coefficient of 0.999, with the TAGA one-minute monitoring providing approximately 35% higher concentrations of TCE than the 24-hour SUMMA® canister samples in the same room. PCE and DCE were not detected by the TAGA above the TAGA's QL in these rooms.

FUTURE ACTIVITIES

No future activities are anticipated at this time.

cc: Central File WA 0-324
Electronic File: L:\Archive\REAC4\324\D\TR\080508
Dennis Miller, REAC Program Manager (cover page only)

TABLE 1
TAGA/SUMMA® CANISTER CRAWL SPACE COMPARISON
Delfasco Forge Site
Grand Prairie, Texas
August 2008

Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF003	002-CS-052008
Location	Unit 002	Unit 002
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	U	U
Tetrachloroethene	0.13	0.23
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF004	003-CS-052008
Location	Unit 003	Unit 003
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.018
Trichloroethene	16	25
Tetrachloroethene	0.33	0.32
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF005	004-CS-052008
Location	Unit 004	Unit 004
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	U	0.032
Tetrachloroethene	U	0.027

Results are in parts per billion by volume (ppbv)

U = None detected at or above the limit of quantitation (LOQ)
 and/or reporting limit (RL) for GC/MS, or QL for TAGA.

LOQ, RL, and QL data are provided in Appendix A and
 Appendix B

TABLE 1 (continued)
TAGA/SUMMA® CANISTER CRAWL SPACE COMPARISON
Delfasco Forge Site
Grand Prairie, Texas
August 2008

Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF006	005-CS-052008
Location	Unit 005	Unit 005
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	U	0.014
Tetrachloroethene	U	0.030
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF007	006-CS-052008
Location	Unit 006	Unit 006
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	0.96	0.69
Tetrachloroethene	U	0.20
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF008	007-CS-052008
Location	Unit 007	Unit 007
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	0.13	0.24
Tetrachloroethene	U	0.030

Results are in parts per billion by volume (ppbv)

U = None detected at or above the limit of quantitation (LOQ)
 and/or reporting limit (RL) for GC/MS, or QL for TAGA.

LOQ, RL, and QL data are provided in Appendix A and
 Appendix B

TABLE 1 (continued)
TAGA/SUMMA® CANISTER CRAWL SPACE COMPARISON
Delfasco Forge Site
Grand Prairie, Texas
August 2008

Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF010	008-CS-052008
Location	Unit 008	Unit 008
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.063
Trichloroethene	5.5	4.4
Tetrachloroethene	U	0.085
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF011	009-CS-052008
Location	Unit 009	Unit 009
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	5.4	3.9
Tetrachloroethene	U	0.038
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF012	010-CS-052008
Location	Unit 010	Unit 010
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	U	0.015
Tetrachloroethene	U	0.049

Results are in parts per billion by volume (ppbv)

U = None detected at or above the limit of quantitation (LOQ)
 and/or reporting limit (RL) for GC/MS, or QL for TAGA.
 LOQ, RL, and QL data are provided in Appendix A and
 Appendix B

TABLE 1 (continued)
TAGA/SUMMA® CANISTER CRAWL SPACE COMPARISON
Delfasco Forge Site
Grand Prairie, Texas
August 2008

Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF013	011-CS-052008
Location	Unit 011	Unit 011
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	U	0.31
Tetrachloroethene	U	0.030
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF015	012-CS-052008
Location	Unit 012	Unit 012
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	2.5	5.5
Tetrachloroethene	0.15	0.46
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF016	013-CS-052008
Location	Unit 013	Unit 013
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.10
Trichloroethene	2.0	1.7
Tetrachloroethene	U	0.048

Results are in parts per billion by volume (ppbv)

U = None detected at or above the limit of quantitation (LOQ)
 and/or reporting limit (RL) for GC/MS, or QL for TAGA.
 LOQ, RL, and QL data are provided in Appendix A and
 Appendix B

TABLE 1 (continued)
TAGA/SUMMA® CANISTER CRAWL SPACE COMPARISON
Delfasco Forge Site
Grand Prairie, Texas
August 2008

Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF017	014-CS-052008
Location	Unit 014	Unit 014
Date Sampled/Monitored	20 May 2008	20 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	U	0.044
Tetrachloroethene	U	0.028
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF026	016-CS-052108
Location	Unit 016	Unit 016
Date Sampled/Monitored	21 May 2008	21 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.011
Trichloroethene	13	13
Tetrachloroethene	U	0.11
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF028	017-CS-052108
Location	Unit 017	Unit 017
Date Sampled/Monitored	21 May 2008	21 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	U	U
Tetrachloroethene	U	U

Results are in parts per billion by volume (ppbv)

U = None detected at or above the limit of quantitation (LOQ)
 and/or reporting limit (RL) for GC/MS, or QL for TAGA.
 LOQ, RL, and QL data are provided in Appendix A and
 Appendix B

TABLE 1 (continued)
TAGA/SUMMA® CANISTER CRAWL SPACE COMPARISON
Delfasco Forge Site
Grand Prairie, Texas
August 2008

Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF033	003-CS-052208
Location	Unit 003	Unit 003
Date Sampled/Monitored	22 May 2008	22 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.033
Trichloroethene	31	33
Tetrachloroethene	0.39	0.41
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF034	016-CS-052208
Location	Unit 016	Unit 016
Date Sampled/Monitored	22 May 2008	22 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	0.038
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.12
Trichloroethene	9.3	14
Tetrachloroethene	U	0.11
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF036	009-CS-052208
Location	Unit 009	Unit 009
Date Sampled/Monitored	22 May 2008	22 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	0.029
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.024
Trichloroethene	1.9	4.3
Tetrachloroethene	U	0.021

Results are in parts per billion by volume (ppbv)

U = None detected at or above the limit of quantitation (LOQ)
 and/or reporting limit (RL) for GC/MS, or QL for TAGA.
 LOQ, RL, and QL data are provided in Appendix A and
 Appendix B

TABLE 1 (continued)
TAGA/SUMMA® CANISTER CRAWL SPACE COMPARISON
Delfasco Forge Site
Grand Prairie, Texas
August 2008

Sample	TAGA	SUMMA®		
Sample/File Number	DFF037	013-CS-052208		
Location	Unit 013	Unit 013		
Date Sampled/Monitored	22 May 2008	22 May 2008		
Compounds	Results	Results		
Vinyl Chloride	U	U		
1,1-Dichloroethene	U	U		
trans-1,2-Dichloroethene	U	U		
cis-1,2-Dichloroethene	U	0.029		
Trichloroethene	0.36	0.51		
Tetrachloroethene	U	0.012		

Sample	TAGA	SUMMA®	TAGA	SUMMA®
Sample/File Number	DFF038	008-CS1-052208	DFF038	008-CS2-052208
Location	Unit 008, CS-1	Unit 008, CS-1	Unit 008, CS-2	Unit 008, CS-2
Date Sampled/Monitored	22 May 2008	22 May 2008	22 May 2008	22 May 2008
Compounds	TAGA	SUMMA®	TAGA	Results
Vinyl Chloride	U	U	U	U
1,1-Dichloroethene	U	U	U	U
trans-1,2-Dichloroethene	U	U	U	U
cis-1,2-Dichloroethene	U	0.017	U	0.14
Trichloroethene	2.2	2.1	3.2	7.8
Tetrachloroethene	U	0.034	U	0.10

Results are in parts per billion by volume (ppbv)

U = None detected at or above the limit of quantitation (LOQ) and/or reporting limit (RL) for GC/MS, or QL for TAGA

LOQ, RL, and QL data are provided in Appendix A and Appendix B

TABLE 2
TAGA/SUMMA® CANISTER INDOOR AIR COMPARISON
Delfasco Forge Site
Grand Prairie, Texas
August 2008

Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF033	003-IND-052208
Location	Unit 003	Unit 003
Date Sampled/Monitored	22 May 2008	22 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.028
Trichloroethene	18	12
Tetrachloroethene	U	0.14
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF034	016-IND-052208
Location	Unit 016	Unit 016
Date Sampled/Monitored	22 May 2008	22 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	0.015
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.035
Trichloroethene	5.6	4.0
Tetrachloroethene	U	0.044
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF036	009-IND-052208
Location	Unit 009	Unit 009
Date Sampled/Monitored	22 May 2008	22 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	U
Trichloroethene	0.074J	0.11
Tetrachloroethene	U	0.0079

Results are in parts per billion by volume (ppbv)

TAGA results are reported for the room in which the canister was placed after the TAGA survey was completed.

U = None detected at or above the limit of quantitation (LOQ) and/or reporting limit (RL) for GC/MS, or QL for TAGA
 LOQ, RL, and QL data are provided in Appendix A and Appendix B

J = Concentration detected below the quantitation limit

TABLE 2 (continued)
TAGA/SUMMA® CANISTER INDOOR AIR COMPARISON
Delfasco Forge Site
Grand Prairie, Texas
August 2008

Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF037	013-IND-052208
Location	Unit 013	Unit 013
Date Sampled/Monitored	22 May 2008	22 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.023
Trichloroethene	0.55	0.45
Tetrachloroethene	U	0.022
Sample Container/Monitor	TAGA	SUMMA®
Sample/File Number	DFF038	008-IND-052208
Location	Unit 008	Unit 008
Date Sampled/Monitored	22 May 2008	22 May 2008
Compounds	Results	Results
Vinyl Chloride	U	U
1,1-Dichloroethene	U	U
trans-1,2-Dichloroethene	U	U
cis-1,2-Dichloroethene	U	0.020
Trichloroethene	2.3	1.4
Tetrachloroethene	U	0.050

Results are in parts per billion by volume (ppbv)

TAGA results are reported for the room in which the canister was placed after the TAGA survey was completed.

U = None detected at or above the limit of quantitation (LOQ) and/or reporting limit (RL) for GC/MS, or QL for TAGA
LOQ, RL, and QL data are provided in Appendix A and Appendix B

J = Concentration detected below the quantitation limit

FIGURE 1
Delfasco Forge Site
Grand Prairie, Texas
August 2008

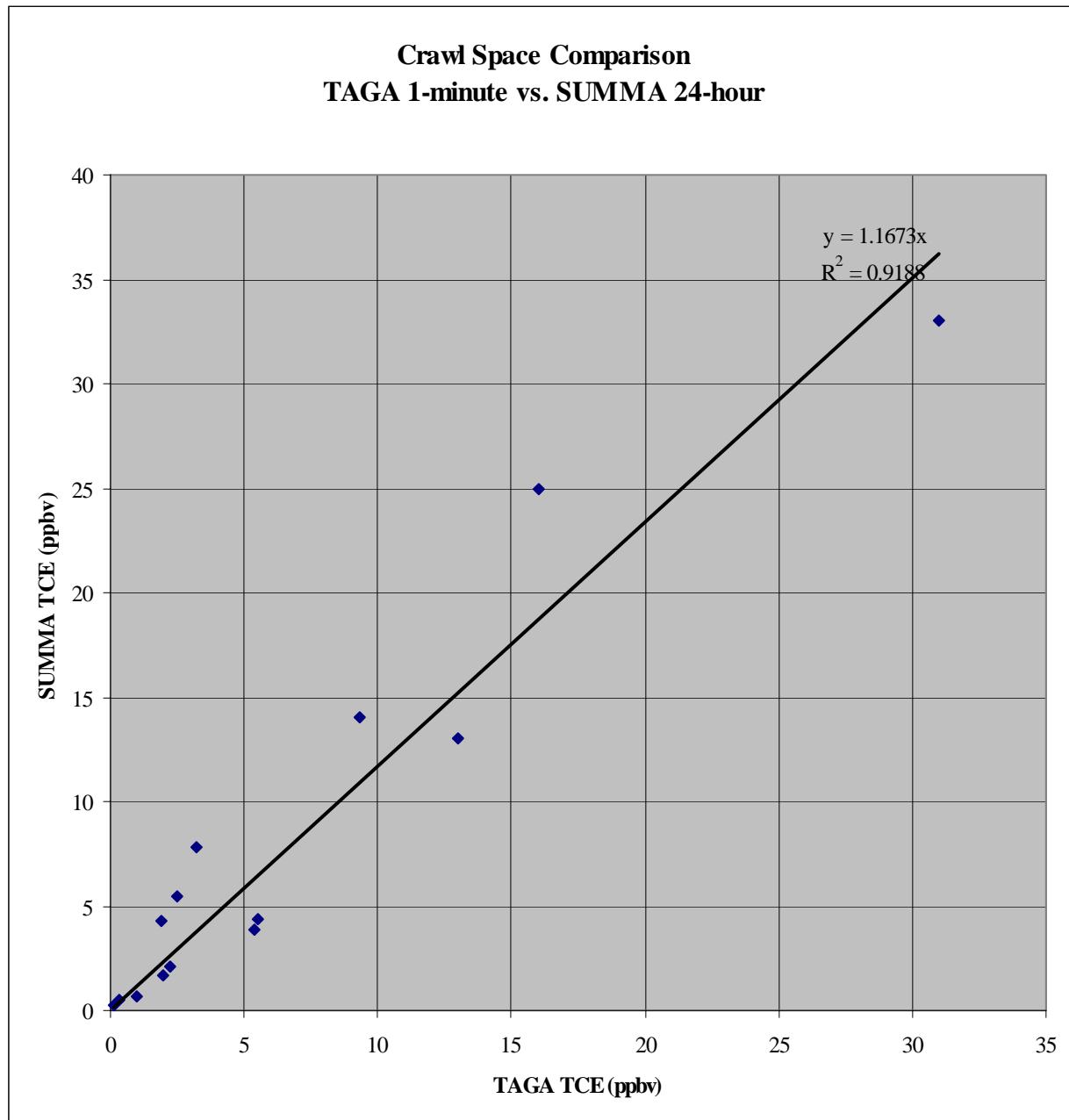
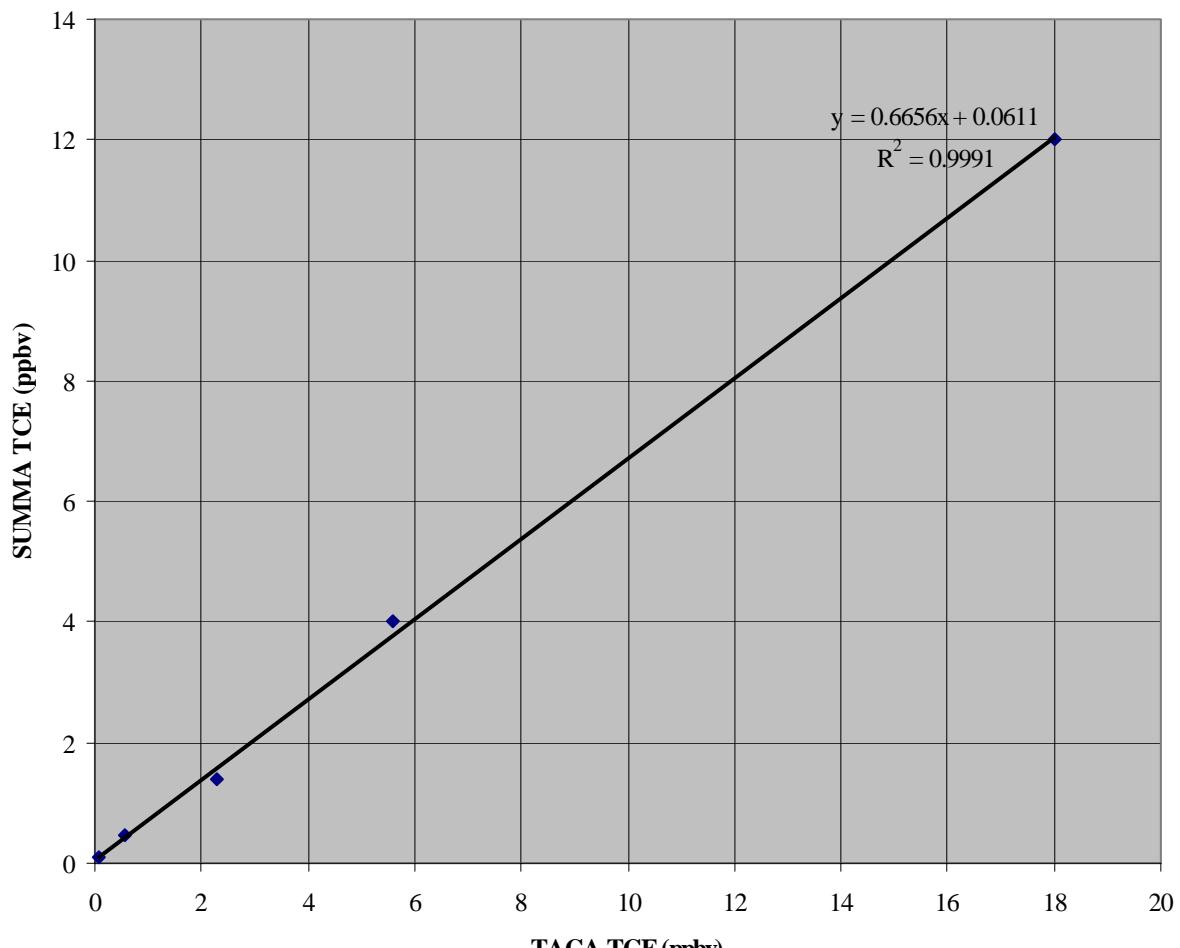


FIGURE 2
Delfasco Forge Site
Grand Prairie, Texas
August 2008

Indoor Air TCE Comparison
TAGA 1-Minute vs. SUMMA 24-hour



Data are reported for the same room in each unit.

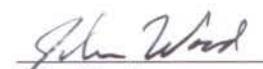
APPENDIX A
Final Analytical TAGA Report
Delfasco Forge Site
Grand Prairie, Texas
August 2008

FINAL ANALYTICAL TAGA REPORT
DELFASCO FORGE SITE
GRAND PRAIRIE, TX
JULY 2008

U.S. EPA Work Assignment No.: 0-324
LOCKHEED MARTIN Work Order No.: EAC00324
U.S. EPA Contract No.: EP-C-04-032

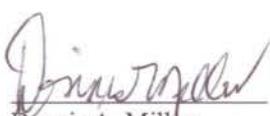
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1.0 INTRODUCTION

The Environmental Protection Agency (EPA)/Environmental Response Team (ERT) issued Work Assignment (WA) Number 0-324, Delfasco Forge Site in Grand Prairie, Texas (TX), to Lockheed Martin under the Response Engineering and Analytical Contract (REAC). As an element of this WA, REAC personnel were to conduct target compound monitoring using the ECA Trace Atmospheric Gas Analyzer (TAGA) IIe, to assist EPA Region VI with its vapor intrusion study.

The TAGA air monitoring events conducted on 20 May through 22 May 2008 were screening in nature. Air monitoring for dichloroethene (DCE), trichloroethene (TCE), and tetrachloroethene (PCE) was performed in accordance with the REAC Draft Standard Operating Procedure (SOP) # 1711, *Trace Atmospheric Gas Analyzer (TAGA) IIe Operations*. Real-time monitoring for the target compounds was performed using a selected ion technique.

2.0 METHODOLOGY

2.1 Mass Spectrometer/Mass Spectrometer General Theory

The ECA TAGA IIe is based upon the Perkin-Elmer API 365 mass spectrometer/mass spectrometer (MS/MS) and is a direct air-monitoring instrument capable of detecting, in real time, trace levels of many organic compounds in ambient air. The technique of triple quadrupole MS/MS is used to differentiate and quantitate compounds.

The initial step in the MS/MS process involves simultaneous chemical ionization of the compounds present in a sample of ambient air. The ionization produces both positive and negative ions by donating or removing one or more electrons. The chemical ionization is a "soft" ionization technique, which allows ions to be formed with little or no structural fragmentation. These ions are called parent ions. The parent ions with different mass-to-charge (m/z) ratios are separated by the first quadrupole (the first MS of the MS/MS system). The quadrupole scans selected m/z ratios allowing only the parent ions with these ratios to pass through the quadrupole. Parent ions with m/z ratios different than those selected are discriminated electronically and fail to pass through the quadrupole.

The parent ions selected in the first quadrupole are accelerated through a collision cell containing uncharged nitrogen molecules in the second quadrupole. A portion of the parent ions entering the second quadrupole fragments as they collide with the nitrogen molecules. These fragment ions are called daughter ions. This process, in the second quadrupole, is called collision induced dissociation. The daughter ions are separated according to their m/z ratios by the third quadrupole (the second MS of the MS/MS system). The quadrupole scans selected m/z ratios, allowing only the daughter ions with these ratios to pass through the quadrupole. Daughter ions with m/z ratios different than those selected are discriminated electronically and fail to pass through the quadrupole. Daughter ions with the selected m/z ratios are then counted by an electron multiplier. The resulting signals are measured in ion counts per second (icps) for each parent/daughter ion pair selected. The intensity of the icps for each parent/daughter ion pair is directly proportional to the ambient air concentration of the organic compound that produced the ion pair. All of the ions discussed in this report have a single charge. The m/z ratios of all of the ions discussed are equal to the ion masses in atomic mass units (amu). Therefore, the terms parent and daughter masses are synonymous with parent and daughter ion m/z ratios.

2.2 TAGA Procedure

The TAGA was used to monitor indoor air during stationary monitoring events, and to analyze Tedlar® bag samples of soil gas. Indoor monitoring utilized a 200-foot corrugated Teflon® sampling hose. The proximal end was attached to the TAGA source inlet, while the distal end

was taken inside a unit. Air was continuously drawn through the hose at a set flow rate and transported to the TAGA source during the monitoring event. For Tedlar® bag analyses, each bag was attached directly to the inlet of the TAGA ionization source.

2.2.1 TAGA Mass Calibration

At the beginning of the monitoring period, a gas mixture containing benzene, toluene, xylenes, tetrachloroethene, trichloroethene, 1,1-dichloroethene, and vinyl chloride was introduced by a mass flow controller (MFC) into the sample air flow (SAF). The tuning parameters for the first quadrupole at 30, 78, 106, 130, and 166 amu, and the third quadrupole at 30, 78, 105, 129, and 166 amu were optimized for sensitivity and mass assignment. The peak widths were limited between 0.55 amu and 0.85 amu. The mass assignments were set to the correct values within 0.15 amu.

2.2.2 TAGA Response Factor Measurements

The TAGA was calibrated for the target compounds at the beginning, middle, and end of each day. The calibration system consisted of a regulated gas cylinder containing a gas standard mixture of the target compounds connected to an in-line MFC. The MFC was calibrated with a National Institute of Standards and Technology (NIST) traceable flow rate meter. The gas standard certification is presented in Appendix A. The gas standard containing a known mixture of target compounds, certified by the supplier, was regulated at preset flow rates, and diluted with ambient air. The dilution of the gas standard resulted in known analyte concentrations. The calibration consisted of a zero point and five known concentrations obtained by setting the MFC to 0, 10, 20, 40, 80, and 90 milliliters per minute (mL/min) with the SAF at 1,500 milliliters per second (mL/sec).

The approximate concentration range of standards introduced into the TAGA was between 1 and 25 parts per billion by volume (ppbv). Utilizing the analytes' concentrations, gas flow rates, air sampling flow rates, and atmospheric pressure, response factors (RFs), in units of ion counts per second per part per billion by volume (icps/ppbv), were calculated for each ion pair by using a least-square-fit algorithm to calculate the slope of its curve. The coefficient of correlation was checked for each ion pair's RF to ensure that it was greater than 0.90. The intermediate response factor (IRF) was calculated between pairs of calibrations and used to quantify target compounds in ambient air. In one case, the RF of each analyte was used to quantify the target compounds in a Tedlar® bag sample.

2.2.3 Transport Efficiency

The transport efficiency and residence time for the target compounds through the 200-foot length of corrugated Teflon® sampling hose was determined prior to and at the conclusion of indoor air monitoring activities each day. The transport efficiency was determined by introducing a known concentration of the target compounds into the proximal end and then into the distal end of the sampling hose. The signal intensity of each ion pair for each compound was measured in icps and the percent (%) transport efficiency calculated using the equation below:

$$\% \text{ transport efficiency} = \frac{\text{signal intensity at the distal end of the hose}}{\text{signal intensity at the proximal end of the hose}} \times 100$$

A transport efficiency of 85 % is considered acceptable and results are summarized in Table 1.

The residence time is the interval, in seconds, it takes the air sample to travel the length of the sampling hose. The residence time, which reflects a time difference between the sampling and the instrument response, is incorporated in the offset. The offset, which is the total number of sequences acquired during the residence time, is applied to the monitoring files (Figures 1a to 14a through 1c to 14c, 17a to 19a through 17c to 19c, 20b to 21b through 20d to 21d, and 23b to 25b through 23d to 25d). Therefore, the observations and instrument responses are temporally coordinated.

2.2.4 TAGA Air Monitoring

TAGA monitoring was performed by continuously drawing air through the Teflon[®] hose at a flow-rate of approximately 1,500 mL/sec. The air was then passed through a glass splitter where the pressure gradient between the mass spectrometer core and the atmosphere causes a sample flow of approximately 10 mL/min into the ionization source through a heated transfer line. The flow into the TAGA source was controlled so that the ionization source pressure was maintained at an optimum value of approximately 1.2 torr. The remaining airflow was drawn through the air pump and vented from the TAGA bus.

Monitoring was performed in the parent/daughter ion-monitoring mode. As monitoring proceeded, the operator pressed letter keys (flags), alphabetically on a computer keyboard, to denote events or locations during the monitoring event. This information was also recorded on an event log sheet. The intensity of each parent/daughter ion pair monitored by the TAGA was recorded in a permanent file on the computer's hard drive. One set of recorded measurements of all the ion pairs is called a sequence.

At the beginning of each preliminary survey, a one-minute pre-entry ambient data segment was collected. For each preliminary survey, at the operator's signal, the sampler proceeded to the crawl space. If access to the crawl space was inside the unit, the sampler went to the room or closet containing the crawl space access, where a one-minute data segment was collected. Then the access hatch was opened, and a one-minute data segment was collected from the crawl space. If access to the crawl space was through an external opening, the crawl space was monitored immediately after completing the pre-entry ambient, then the unit was entered, and a one-minute data segment was collected from the inside of the unit. At the conclusion of the preliminary survey, a one-minute post-exit ambient data segment was collected. Upon completion of the one-minute post-exit ambient data segment, the instrumentation was challenged with the calibration standard, which was introduced at 30 mL/min (approximately 7 ppbv), to verify that the system was functioning properly.

At the beginning of each survey, a one-minute pre-entry ambient data segment was collected. At the operator's signal, the sampler then entered the unit while holding the distal end of the hose at breathing height. The sampler proceeded to each room in the unit where one-minute data segments were collected. After the rooms in the unit were monitored, a one-minute post-exit ambient data segment was collected. Upon completion of the one-minute post-exit ambient data segment, the instrumentation was challenged with the calibration standard, which was introduced at 30 mL/min (approximately 7 ppbv), to verify that the system was functioning properly.

2.3 Meteorological Monitoring

United States Department of Commerce, National Oceanic and Atmospheric Administration, National Climatic Data Center provided the meteorological data for 05/19/08 through 05/23/08. Data were collected by the Dallas Executive Airport in Dallas, TX. The Dallas Executive Airport is located approximately 5 miles southeast of the Delfasco Forge Site. Meteorological data, such as wind speed, wind direction, and rainfall, are summarized in Table 2 for the periods during which monitoring occurred. The compiled meteorological data are presented in Appendix B. The reported data for rainfall is an average of the data recorded during the hour preceding the time recorded in the table. The reported meteorological data for wind speed and direction represent a five-minute average collected prior to the time recorded in the table. Because of the distance of the meteorological monitoring location from the study location and the short averaging period, care should be exercised in relating meteorological conditions existing at the Delfasco Forge Site.

3.0 TAGA AIR MONITORING RESULTS

The TAGA was used to survey indoor air in residential units in the vicinity of the Delfasco Forge Site, and to analyze Tedlar® bag samples of sub-surface gas.

3.1 Unit Surveys

Figures 20a, 21a, and 23a through 25a, present the approximate floor plans of each unit. The SUMMA® canister sampling locations are also depicted in these floor plans. The monitoring locations marked by letters are the "flags" that the TAGA operator placed into the file. These "flags" mark events and are carried through the rest of the data presentation.

3.2 TAGA File Event Summaries

Figures 1a through 19a, 20b, 21b, 22a, and 23b through 25b present the TAGA file event summaries. These are the observations made during the file acquisition by the TAGA operator, along with the times from the TAGA file and the letter "flags" used to mark the data, which are recorded by the TAGA computer.

3.3 Graphical Presentations

Figures 1b through 19b, 20c, 21c, 22b, and 23c through 25c are the graphical representations of the TAGA files. A graph of each target compound concentration is presented with ppbv plotted on the vertical axis, and time into the acquisition, in minutes, on the horizontal axis. The target compound concentration was calculated by averaging the concentrations obtained from the ion pairs that were monitored for each target compound. There are two horizontal lines on each graph. The lower line is set at the detection limit (DL) for the compound. The higher line is set at the concentration equal to the quantitation limit (QL) for the target compound. When high concentrations are represented, the lower DL line may not be readily discerned. Transient, momentary spikes above the QL line are occasionally observed. These spikes, electronic in nature, do not affect average concentrations. They may be distinguished from elevated concentrations because the spikes are only present for one sequence and are often only present for one ion pair of the monitored compound.

3.4 TAGA Target Compound Summaries

Figures 1c through 19c, 20d, 21d, 22c, and 23d through 25d present the TAGA target compound summaries. These figures contain the concentrations of the target compounds averaged over time, at the various locations logged into the TAGA file event summaries.

4.0 DISCUSSION OF RESULTS

The TAGA target compound summaries are represented in Figures 1c through 19c, 20d, 21d, 22c, and 23d through 25d. During each survey, a one-minute average was measured in each room, or at various locations within a room. Only the highest average concentrations above the QL are listed below. Three Tedlar® bag samples of soil gas were analyzed at the request of the WAM.

4.1 Unit 002 Preliminary Survey, File DFF003

A preliminary survey was conducted in Unit 002 on 20 May 2008 at 08:17:53 and is represented in Figures 1a through 1c. The average wind speed and direction at the airport for the five-minute period ending at 08:32 were calm. There was no precipitation during the preceding hour. The highest average concentration of tetrachloroethene was 0.84 ppbv in the closet with the hatch, between flags H and I. The average concentrations of dichloroethene and trichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.2 Unit 003 Preliminary Survey, File DFF004

A preliminary survey was conducted in Unit 003 on 20 May 2008 at 08:58:56 and is represented in Figures 2a through 2c. The average wind speed and direction at the airport during the monitoring period were 6 miles per hour (mph) from 220 degrees. There was no precipitation during the preceding hour. The highest average concentrations were: tetrachloroethene, 0.33 ppbv, and trichloroethene, 16 ppbv, both in the crawl space, between flags F and G. The average concentration of dichloroethene was not detected above its quantitation limit at any of the monitoring locations.

4.3 Unit 004 Preliminary Survey, File DFF005

A preliminary survey was conducted in Unit 004 on 20 May 2008 at 09:39:20 and is represented in Figures 3a through 3c. The average wind speed and direction at the airport during the monitoring period were 8 mph from 255 degrees. There was no precipitation during the preceding hour. None of the target compounds was detected above its quantitation limit at any of the monitoring locations.

4.4 Unit 005 Preliminary Survey, File DFF006

A preliminary survey was conducted in Unit 005 on 20 May 2008 at 10:28:18 and is represented in Figures 4a through 4c. The average wind speed and direction at the airport for the five-minute period ending at 10:24 were 3 mph from 340 degrees. There was no precipitation during the preceding hour. None of the target compounds was detected above its quantitation limit at any of the monitoring locations.

4.5 Unit 006 Preliminary Survey, File DFF007

A preliminary survey was conducted in Unit 006 on 20 May 2008 at 11:03:17 and is represented in Figures 5a through 5c. The average wind speed and direction at the airport during the monitoring period were 5 mph from 35 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 0.96 ppbv in the crawl space, between flags F and G. The average concentrations of dichloroethene and tetrachloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.6 Unit 007 Preliminary Survey, File DFF008

A preliminary survey was conducted in Unit 007 on 20 May 2008 at 11:48:18 and is represented in Figures 6a through 6c. The average wind speed and direction at the airport for the five-minute period ending at 11:53 were 6 mph from 60 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 0.13 ppbv in the crawl space, between flags F and G. The average concentrations of dichloroethene and tetrachloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.7 Unit 008 Preliminary Survey, File DFF010

A preliminary survey was conducted in Unit 008 on 20 May 2008 at 14:01:12 and is represented in Figures 7a through 7c. The average wind speed and direction at the airport for the five-minute period ending at 13:53 were 9 mph from 70 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 5.5 ppbv in the crawl space through hatch two, between flags H and I. The average concentrations of dichloroethene and tetrachloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.8 Unit 009 Preliminary Survey, File DFF011

A preliminary survey was conducted in Unit 009 on 20 May 2008 at 15:00:32 and is represented in Figures 8a through 8c. The average wind speed and direction at the airport for the five-minute period ending at 14:53 were 9 mph from 60 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 5.4 ppbv in the crawl space, between flags C and D. The average concentrations of dichloroethene and tetrachloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.9 Unit 010 Preliminary Survey, File DFF012

A preliminary survey was conducted in Unit 010 on 20 May 2008 at 16:04:56 and is represented in Figures 9a through 9c. The average wind speed and direction at the airport for the five-minute period ending at 15:53 were 10 mph from 30 degrees. There was no precipitation during the preceding hour. None of the target compounds was detected above its quantitation limit at any of the monitoring locations.

4.10 Unit 011 Preliminary Survey, File DFF013

A preliminary survey was conducted in Unit 011 on 20 May 2008 at 16:53:15 and is represented in Figures 10a through 10c. The average wind speed and direction at the airport for the five-minute period ending at 16:53 were 11 mph from 40 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 0.38 ppbv in the crawl space, between flags F and G. The average concentrations of dichloroethene and tetrachloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.11 Unit 012 Preliminary Survey, File DFF015

A preliminary survey was conducted in Unit 012 on 20 May 2008 at 18:59:43 and is represented in Figures 11a through 11c. The average wind speed and direction at the airport for the five-minute period ending at 18:53 were 8 miles per hour (mph) from 50 degrees. There was no precipitation during the preceding hour. The highest average concentrations were:

tetrachloroethene, 0.15 ppbv, and trichloroethene, 2.5 ppbv, both in the crawl space, between flags H and I. The average concentration of dichloroethene was not detected above its quantitation limit at any of the monitoring locations.

4.12 Unit 013 Preliminary Survey, File DFF016

A preliminary survey was conducted in Unit 013 on 20 May 2008 at 19:41:01 and is represented in Figures 12a through 12c. The average wind speed and direction at the airport for the five-minute period ending at 19:53 were 7 mph from 60 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 2.0 ppbv in the crawl space, between flags F and G. The average concentrations of dichloroethene and tetrachloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.13 Unit 014 Preliminary Survey, File DFF017

A preliminary survey was conducted in Unit 014 on 20 May 2008 at 20:09:04 and is represented in Figures 13a through 13c. The average wind speed and direction at the airport for the five-minute period ending at 19:53 were 7 mph from 60 degrees. There was no precipitation during the preceding hour. None of the target compounds was detected above its quantitation limit at any of the monitoring locations.

4.14 Unit 015 Preliminary Survey, File DFF018

A preliminary survey was conducted in Unit 015 on 20 May 2008 at 20:42:38 and is represented in Figures 14a through 14c. The average wind speed and direction at the airport for the five-minute period ending at 20:53 were 7 mph from 50 degrees. There was no precipitation during the preceding hour. The highest average concentration was: tetrachloroethene, 0.52 ppbv, in the closet, between flags D and E. The average concentrations of trichloroethene and dichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.15 Unit 015 Tedlar[®] Bag Analysis, File DFF021

A Tedlar[®] bag sample was collected on 20 May 2008 at 20:51 from the sub-surface probe in Unit 015 and analyzed on the TAGA on 20 May 2008 at 22:25:26 and is represented in Figures 15a through 15c. The highest average concentration was: tetrachloroethene, 5.3 ppbv, between flags A and B. The average concentrations of trichloroethene and dichloroethene were not detected above their quantitation limits.

4.16 Unit 001 Tedlar[®] Bag Analysis, File DFF023

A Tedlar[®] bag sample was collected on 21 May 2008 at 09:05 from the sub-surface probe in Unit 001 and analyzed on the TAGA on 21 May 2008 at 09:29:31 and is represented in Figures 16a through 16c. None of the target compounds was detected above its quantitation limit.

4.17 Unit 016 Preliminary Survey One, File DFF026

A preliminary survey was conducted in Unit 016 on 21 May 2008 at 10:41:59 and is represented in Figures 17a through 17c. The average wind speed and direction at the airport for the five-minute period ending at 10:53 were 11 mph from 130 degrees. There was no precipitation during the preceding hour. The highest average concentration was: trichloroethene, 13 ppbv, in the crawl space, between flags C and D. The average concentrations of tetrachloroethene and dichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.18 Unit 016 Preliminary Survey Two, File DFF027

A preliminary survey was conducted in Unit 016 on 21 May 2008 at 11:10:12 and is represented in Figures 18a through 18c. The average wind speed and direction at the airport for the five-minute period ending at 10:53 were 11 mph from 130 degrees. There was no precipitation during the preceding hour. The highest average concentration was: trichloroethene, 12 ppbv, under the kitchen sink, between flags F and G. The average concentrations of tetrachloroethene and dichloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.19 Unit 017 Preliminary Survey, File DFF028

A preliminary survey was conducted in Unit 017 on 21 May 2008 at 15:46:41 and is represented in Figures 19a through 19c. The average wind speed and direction at the airport for the five-minute period ending at 15:53 were 16 mph from 150 degrees. There was no precipitation during the preceding hour. None of the target compounds was detected above its quantitation limit at any of the monitoring locations.

4.20 Unit 003 Survey, File DFF033

Unit 003 was surveyed on 22 May 2008 at 09:04:20 and is represented in Figures 20a through 20d. The average wind speed and direction during the monitoring period were 15 mph from 160 degrees. There was no precipitation during the preceding hour. The highest average concentrations were: tetrachloroethene, 0.39 ppbv, and trichloroethene, 31 ppbv, both in the crawl space, between flags T and U. The average concentration of dichloroethene was not detected above its quantitation limit at any of the monitoring locations.

4.21 Unit 016 Survey, File DFF034

Unit 016 was surveyed on 22 May 2008 at 09:45:36 and is represented in Figures 21a through 21d. The average wind speed and direction at the airport for the five-minute period ending at 09:53 were 16 mph from 160 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 9.3 ppbv in the crawl space, between flags S and T. The average concentrations of dichloroethene and tetrachloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.22 Unit 018 Tedlar[®] Bag Analysis, File DFF035

A Tedlar[®] bag sample was collected on 22 May 2008 at 08:25 from the sub-surface probe in Unit 018 and analyzed on the TAGA on 22 May 2008 at 10:40:08 and is represented in Figures 22a through 22c. The highest average concentrations were: trichloroethene, 20 ppbv, and tetrachloroethene, 0.31 ppbv, between flags A and B. The average concentration of dichloroethene was not detected above its quantitation limit.

4.23 Unit 009 Survey, File DFF036

Unit 009 was surveyed on 22 May 2008 at 11:30:09 and is represented in Figures 23a through 23d. The average wind speed and direction at the airport for the five-minute period ending at 11:53 were 17 mph from 170 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 1.9 ppbv in the crawl space, between flags S and T. The average concentrations of dichloroethene and tetrachloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.24 Unit 013 Survey, File DFF037

Unit 013 was surveyed on 22 May 2008 at 12:13:32 and is represented in Figures 24a through 24d. The average wind speed and direction at the airport for the five-minute period ending at 12:53 were 23 mph from 160 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 0.64 ppbv in the laundry, between flags H and I. The average concentrations of dichloroethene and tetrachloroethene were not detected above their quantitation limits at any of the monitoring locations.

4.25 Unit 008 Survey, File DFF038

Unit 008 was surveyed on 22 May 2008 at 15:19:50 and is represented in Figures 25a through 25d. The average wind speed and direction at the airport for the five-minute period ending at 15:53 were 16 mph from 160 degrees. There was no precipitation during the preceding hour. The highest average concentration of trichloroethene was 3.2 ppbv in crawl space two, between flags R and S. The average concentrations of dichloroethene and tetrachloroethene were not detected above their quantitation limits at any of the monitoring locations.

5.0 QUALITY ASSURANCE/QUALITY CONTROL

The compound parent/daughter ion pairs used are listed below.

Compound	Parent Ion Mass	Daughter Ion Mass
Dichloroethene	96	61
Dichloroethene	98	61
Trichloroethene	130	95
Trichloroethene	132	95
Trichloroethene	132	97
Tetrachloroethene	164	129
Tetrachloroethene	166	129
Tetrachloroethene	166	131

Tables 3 and 4 document the RFs and IRFs generated during the calibration procedure for the individual ion pairs. Response Factors and Intermediate Response Factors were used to quantitate the ion pair concentrations.

The summaries of detection and quantitation limit data for the monitoring periods (Section 5.3 and Table 4) document the concentration, in ppbv, required for a compound's ion pair to be considered detectable and quantifiable during the specified monitoring period. The DL is defined as three times the standard deviation of the concentration for a compound's ion pair measured in an ambient air sample. The QL is defined as 10 times the standard deviation of the concentration for the same conditions.

The summaries of the target compound detection and quantitation limits measured during the monitoring periods (Section 5.4 and Table 4) document the concentration, in ppbv, required for the compound to be considered detectable and quantifiable. The detection and quantitation limits for a compound result from averaging the appropriate detection and quantitation limits of the compound's ion pairs.

5.1 Intermediate Response Factor for Ion Pairs

Response factors were generated from two calibration events, as described in the procedure (Section 2.2.2.). Table 3 contains the RFs in units of icps/ppbv. The initial and final RFs were used to calculate the IRFs, which were used to calculate the reported concentration results.

The following equation was used to calculate the IRFs found in Tables 3 and 4:

$$\text{IRF} = \frac{2(\text{RF}_1 \times \text{RF}_2)}{(\text{RF}_1 + \text{RF}_2)}$$

where:

IRF = Intermediate response factor (icps/ppbv)

RF₁ = The RF for an ion pair measured during the first calibration event (icps/ppbv)

RF₂ = The RF for the same ion pair measured during the second calibration event (icps/ppbv)

For example, the entry for the 96/61 ion pair of dichloroethene from Table 3 for files DFF009 and DFF014, 20 May 2008 is:

RF₁ = 670.25 icps/ppbv

RF₂ = 619.32 icps/ppbv

therefore,

$$\text{IRF} = \frac{2(670.25 \times 619.32)}{(670.25 + 619.32)} = \frac{830,198.46}{1,289.57} = 643.78 \text{ icps/ppbv}$$

The result, 643.78 icps/ppbv, is the IRF reported in Table 3 and used in Table 4.

5.2 Error Bars

The potential maximum concentration percent deviations for each target compound are presented in Table 3 and are called “error bars” for simplicity. They represent the potential bias in the concentration due to changes in the sensitivity of the TAGA instrument. Errors bars were calculated using the following equation:

$$\text{error bar} = \frac{|\text{RF}_1 - \text{RF}_2|}{(\text{RF}_1 + \text{RF}_2)} \times 100$$

where:

error bar = Maximum concentration percent deviation

RF₁ = The RF for an ion pair measured during the first calibration event (icps/ppbv)

RF₂ = The RF for the same ion pair measured during the second calibration event (icps/ppbv)

For example, the entry for the 96/61 ion pair of dichloroethene from Table 3 for files DFF009 and DFF014, 20 May 2008 is:

RF₁ = 670.25 icps/ppbv

RF₂ = 619.32 icps/ppbv

$$\text{error bar} = \frac{|670.25 - 619.32|}{(670.25 + 619.32)} \times 100 = 3.95\%$$

The % error bar calculated for the 96/61 ion pair of dichloroethene is 3.95% for files DFF009 and DFF014, 20 May 2008.

The above calculation was repeated for each ion pair. The error bars for each compound's ions were averaged to give a single value for the compound. This averaged error bar can be applied to the samples analyzed between the two calibrations of the monitoring period.

5.3 Ion Pair Detection and Quantitation Limits

The DLs and QLs were calculated using the standard deviation (SD) of the compound's ion pair intensity measured in an ambient air sample and its RF. The SD reflects the variability of the instrument's response to the ambient air sample.

The following equation was used to calculate the DLs found in Table 4:

$$DL = \frac{3 \times SD}{RF \text{ or } IRF}$$

where:

DL = Detection limit for an ion pair (ppbv)
SD = Standard deviation of the ion intensity measured in an ambient air sample (icps)
RF or IRF = Response factor or intermediate response factor for an ion pair (icps/ppbv)

For example, the entry for the 96/61 ion pair of dichloroethene from Table 4, files DFF009 and DFF014, 20 May 2008 is:

SD = 5.2847 icps
IRF = 643.78 icps/ppbv

$$DL = \frac{3 \times 5.2847}{643.78} = 0.0246 \text{ ppbv}$$

The following equation was used to calculate the QLs found in Table 4:

$$QL = \frac{10 \times SD}{RF \text{ or } IRF}$$

where:

QL = Quantitation limit concentration for an ion pair (ppbv)
SD = Standard deviation of the ion intensity measured in an ambient air sample (icps)
RF or IRF = Response factor/intermediate response factor for an ion pair (icps/ppbv)

For example, the entry for the 96/61 ion pair of dichloroethene from Table 4 for files DFF009 and DFF014, 20 May 2008 is:

$$\begin{aligned} \text{SD} &= 5.2847 \text{ icps} \\ \text{IRF} &= 643.78 \text{ icps/ppbv} \end{aligned}$$

$$QL = \frac{10 \times 5.2847}{643.78} = 0.0821 \text{ ppbv}$$

5.4 Compound Detection and Quantitation Limits

Averaging the respective DLs and QLs of the target compound's ion pairs found in Table 4 generated the DLs and QLs found in Table 4.

The following equation was used to calculate the compound's DL:

$$DL_c = \frac{DL_1 + DL_2 + \dots + DL_n}{n}$$

where:

- DL_c = Detection limit for a compound (ppbv)
- DL_1 = Detection limit for the first ion pair (ppbv)
- DL_2 = Detection limit for the second ion pair (ppbv)
- DL_n = Detection limit for the n^{th} ion pair (ppbv)
- n = Number of ion pairs to be averaged

For example, using the entries for the 96/61 and 98/61 ion pairs of dichloroethene from Table 4 for files DFF009 and DFF014, 20 May 2008 is:

$$DL_c = \frac{0.0246 + 0.0704}{2} = \frac{0.0950}{2} = 0.0475 \text{ ppbv}$$

This result, 0.0475 ppbv, rounded to 0.048 ppbv is the DL for dichloroethene found in Table 4.

The following equation was used to calculate the compound's QL:

$$QL_c = \frac{QL_1 + QL_2 + \dots + QL_n}{n}$$

where:

- QL_c = Quantitation limit for a compound (ppbv)
- QL_1 = Quantitation limit for the first ion pair (ppbv)
- QL_2 = Quantitation limit for the second ion pair (ppbv)
- QL_n = Quantitation limit for the n^{th} ion pair (ppbv)
- n = Number of ion pairs to be averaged

For example, using the entries for the 96/61 and 98/61 ion pair of dichloroethene from Table 4 for files DFF009 and DFF014, 20 May 2008 is:

$$QL_c = \frac{0.0821 + 0.235}{2} = \frac{0.317}{2} = 0.158 \text{ ppbv}$$

This result, 0.158 ppbv, rounded to 0.16 ppbv is the QL for dichloroethene found in Table 4.

TABLES

TABLE 1
Summary of Transport Efficiencies Measured on 20 May through 22 May 2008
Delfasco Forge Site
Grand Prairie, Texas
July 2008

Transport Efficiency for 20 May 2008 07:02:47 File: DFF002				
Start Sequence:		401	631	
End Sequence:		471	702	
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)
Dichloroethene	96/61	3791.8	3766.3	99.3
Dichloroethene	98/61	1277.9	1317.4	103.1
Average Dichloroethene Transport Efficiency:				101.2
Trichloroethene	130/95	6862.4	6783.4	98.8
Trichloroethene	132/95	2175.6	2141.5	98.4
Trichloroethene	132/97	3890.6	3862.4	99.3
Average Trichloroethene Transport Efficiency:				98.9
Tetrachloroethene	164/129	2736.8	2898.9	105.9
Tetrachloroethene	166/129	1554.6	1571.8	101.1
Tetrachloroethene	166/131	4232.8	4162.8	98.3
Average Tetrachloroethene Transport Efficiency:				101.8

Transport Efficiency for 20 May 2008 21:21:17 File: DFF020				
Start Sequence:		111	394	
End Sequence:		253	464	
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)
Dichloroethene	96/61	3161.2	3206.3	101.4
Dichloroethene	98/61	1113.6	1128.3	101.3
Average Dichloroethene Transport Efficiency:				101.4
Trichloroethene	130/95	5783.3	5880.8	101.7
Trichloroethene	132/95	1701.4	1757.5	103.3
Trichloroethene	132/97	3138.7	3207.2	102.2
Average Trichloroethene Transport Efficiency:				102.4
Tetrachloroethene	164/129	2532.9	2626.8	103.7
Tetrachloroethene	166/129	1686.5	1684.5	99.9
Tetrachloroethene	166/131	4643.3	4603.7	99.1
Average Tetrachloroethene Transport Efficiency:				100.9

PM/DM = Parent mass/Daughter mass

icps = Ion counts per second

% = Percent

TABLE 1 (continued)
Summary of Transport Efficiencies Measured on 20 May through 22 May 2008
Delfasco Forge Site
Grand Prairie, Texas
July 2008

Transport Efficiency for 21 May 2008 10:27:52 File: DFF025				
Start Sequence:		135	361	
End Sequence:		207	432	
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)
Dichloroethene	96/61	2526.6	2596.4	102.8
Dichloroethene	98/61	903.6	947.2	104.8
Average Dichloroethene Transport Efficiency:				103.8
Trichloroethene	130/95	4857.7	4768.9	98.2
Trichloroethene	132/95	1594.9	1582.8	99.2
Trichloroethene	132/97	3096.2	3045.8	98.4
Average Trichloroethene Transport Efficiency:				98.6
Tetrachloroethene	164/129	3760.5	3824.3	101.7
Tetrachloroethene	166/129	1308.6	1318.1	100.7
Tetrachloroethene	166/131	3668.1	3691.7	100.6
Average Tetrachloroethene Transport Efficiency:				101.0

Transport Efficiency for 21 May 2008 17:48:31 File: DFF030				
Start Sequence:		148	406	
End Sequence:		230	478	
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)
Dichloroethene	96/61	2281.0	2233.6	97.9
Dichloroethene	98/61	829.5	824.4	99.4
Average Dichloroethene Transport Efficiency:				98.7
Trichloroethene	130/95	4433.5	4194.7	94.6
Trichloroethene	132/95	1542.7	1492.5	96.7
Trichloroethene	132/97	3011.6	2878.4	95.6
Average Trichloroethene Transport Efficiency:				95.6
Tetrachloroethene	164/129	3963.7	3793.6	95.7
Tetrachloroethene	166/129	1397.6	1314.8	94.1
Tetrachloroethene	166/131	3884.7	3675.1	94.6
Average Tetrachloroethene Transport Efficiency:				94.8

PM/DM = Parent mass/Daughter mass

icps = Ion counts per second

% = Percent

TABLE 1 (continued)
Summary of Transport Efficiencies Measured on 20 May through 22 May 2008
Delfasco Forge Site
Grand Prairie, Texas
July 2008

Transport Efficiency for 22 May 2008 08:29:05 File: DFF032				
Start Sequence:		104	305	
End Sequence:		175	375	
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)
Dichloroethene	96/61	3016.3	2994.2	99.3
Dichloroethene	98/61	1068.8	1051.8	98.4
Average Dichloroethene Transport Efficiency:				98.8
Trichloroethene	130/95	4623.6	4480.8	96.9
Trichloroethene	132/95	1577.6	1491.5	94.5
Trichloroethene	132/97	3069.0	2969.6	96.8
Average Trichloroethene Transport Efficiency:				96.1
Tetrachloroethene	164/129	3960.1	3847.6	97.2
Tetrachloroethene	166/129	1513.1	1484.2	98.1
Tetrachloroethene	166/131	4398.5	4244.9	96.5
Average Tetrachloroethene Transport Efficiency:				97.3

Transport Efficiency for 22 May 2008 16:49:56 File: DFF040				
Start Sequence:		89	349	
End Sequence:		159	424	
Compound	PM/DM	Proximal Intensity (icps)	Distal Intensity (icps)	Transport Efficiency (%)
Dichloroethene	96/61	3035.9	2877.8	94.8
Dichloroethene	98/61	1151.8	1080.4	93.8
Average Dichloroethene Transport Efficiency:				94.3
Trichloroethene	130/95	5002.7	4715.3	94.3
Trichloroethene	132/95	1597.5	1496.2	93.7
Trichloroethene	132/97	3165.6	2987.4	94.4
Average Trichloroethene Transport Efficiency:				94.1
Tetrachloroethene	164/129	4217.6	4032.6	95.6
Tetrachloroethene	166/129	1590.3	1567.6	98.6
Tetrachloroethene	166/131	4791.4	4599.9	96.0
Average Tetrachloroethene Transport Efficiency:				96.7

PM/DM = Parent mass/Daughter mass

icps = Ion counts per second

% = Percent

TABLE 2
Summary of Meteorological Conditions during Monitoring
20 May through 22 May 2008
Delfasco Forge Site
Grand Prairie, Texas
July 2008

Date	File	Ws Avg	Wd Avg	Precipitation (inches)	Atmospheric Pressure (inches Hg)
5/20/2008	UFF003	CALM	CALM	0	29.08
5/20/2008	UFF004	6 ⁽¹⁾	220 ⁽¹⁾	0	29.07
5/20/2008	UFF005	8 ⁽²⁾	255 ⁽²⁾	0	29.07
5/20/2008	UFF006	3	340	0	29.08
5/20/2008	UFF007	5 ⁽³⁾	35 ⁽³⁾	0	29.09
5/20/2008	UFF008	6	60	0	29.09
5/20/2008	UFF010	9	70	0	29.07
5/20/2008	UFF011	9	60	0	29.06
5/20/2008	UFF012	10	30	0	29.05
5/20/2008	UFF013	11	40	0	29.04
5/20/2008	UFF015	8	50	0	29.03
5/20/2008	UFF016	7	60	0	29.04
5/20/2008	UFF017	7	60	0	29.04
5/20/2008	UFF018	7	50	0	29.05
5/21/2008	UFF026	11	130	0	28.99
5/21/2008	UFF027	11	130	0	28.99
5/21/2008	UFF028	16	150	0	28.86
5/22/2008	UFF033	15 ⁽⁴⁾	160 ⁽⁴⁾	0	28.83
5/22/2008	UFF034	16	160	0	28.82
5/22/2008	UFF036	17	170	0	28.82
5/22/2008	UFF037	23	160	0	28.79
5/22/2008	UFF038	16	160	0	28.77

The wind direction is the direction from which the wind is blowing.

Ws = Wind speed in miles per hour

Wd = Wind direction in degrees

(1) = Vector average of 0903 and 0925 observations (Appendix B)

(2) = Vector average of 0925 and 0953 observations (Appendix B)

(3) = Wind direction interpolated from VR (Appendix B)

(4) = Vector average of 0901, 0924 and 0934 observations (Appendix B)

TABLE 3
Summary of Response Factors and Error Bars for 20 May through 22 May 2008
Delfasco Forge Site
Grand Prairie, Texas
July 2008

Calibration Files: DFF001 and DFF009 on 20 May 2008 Used for Survey Files: DFF003 to DFF008					
Compound	PM/DM	Initial Response Factor (icps/ppbv)	Final Response Factor (icps/ppbv)	Intermediate Response Factor (icps/ppbv)	Error Bar (%)
Dichloroethene	96/61	532.78	670.25	593.66	11.4
Dichloroethene	98/61	184.75	227.59	203.94	10.4
					Average: 11.
Trichloroethene	130/95	1055.1	1343.7	1182.0	12.0
Trichloroethene	132/95	344.56	422.46	379.55	10.2
Trichloroethene	132/97	616.64	759.54	680.67	10.4
					Average: 11.
Tetrachloroethene	164/129	566.63	626.44	595.03	5.01
Tetrachloroethene	166/129	262.62	338.97	295.95	12.7
Tetrachloroethene	166/131	696.72	904.50	787.13	13.0
					Average: 10.

Calibration Files: DFF009 and DFF014 on 20 May 2008 Used for Survey Files: DFF010 to DFF013					
Compound	PM/DM	Initial Response Factor (icps/ppbv)	Final Response Factor (icps/ppbv)	Intermediate Response Factor (icps/ppbv)	Error Bar (%)
Dichloroethene	96/61	670.25	619.32	643.78	3.95
Dichloroethene	98/61	227.59	215.87	221.58	2.64
					Average: 3.3
Trichloroethene	130/95	1343.7	1301.4	1322.2	1.60
Trichloroethene	132/95	422.46	392.56	406.96	3.67
Trichloroethene	132/97	759.54	712.99	735.53	3.16
					Average: 2.8
Tetrachloroethene	164/129	626.44	501.06	556.78	11.1
Tetrachloroethene	166/129	338.97	316.03	327.10	3.50
Tetrachloroethene	166/131	904.50	857.76	880.51	2.65
					Average: 5.8

PM/DM = Parent Mass/Daughter Mass

icps = ion counts per second

ppbv = parts per billion by volume

% = Percent

TABLE 3 (continued)
Summary of Response Factors and Error Bars for 20 May through 22 May 2008
Delfasco Forge Site
Grand Prairie, Texas
July 2008

Calibration Files: DFF014 and DFF019 on 20 May 2008 Used for Survey Files: DFF015 to DFF018 and DFF021					
Compound	PM/DM	Initial Response Factor (icps/ppbv)	Final Response Factor (icps/ppbv)	Intermediate Response Factor (icps/ppbv)	Error Bar (%)
Dichloroethene	96/61	619.32	533.61	573.28	7.43
Dichloroethene	98/61	215.87	189.42	201.78	6.53
					Average: 7.0
Trichloroethene	130/95	1301.4	1077.3	1178.8	9.42
Trichloroethene	132/95	392.56	339.52	364.12	7.24
Trichloroethene	132/97	712.99	613.39	659.45	7.51
					Average: 8.1
Tetrachloroethene	164/129	501.06	594.22	543.68	8.51
Tetrachloroethene	166/129	316.03	319.03	317.52	0.472
Tetrachloroethene	166/131	857.76	855.03	856.39	0.159
					Average: 3.0

Calibration Files: DFF024 and DFF029 on 21 May 2008 Used for Survey Files: DFF026, DFF027, and DFF028					
Compound	PM/DM	Initial Response Factor (icps/ppbv)	Final Response Factor (icps/ppbv)	Intermediate Response Factor (icps/ppbv)	Error Bar (%)
Dichloroethene	96/61	386.81	322.41	351.69	9.08
Dichloroethene	98/61	136.22	117.09	125.93	7.55
					Average: 8.3
Trichloroethene	130/95	749.12	645.14	693.25	7.46
Trichloroethene	132/95	248.28	231.03	239.35	3.60
Trichloroethene	132/97	475.76	444.99	459.86	3.34
					Average: 4.8
Tetrachloroethene	164/129	617.85	618.19	618.02	0.0282
Tetrachloroethene	166/129	216.73	213.85	215.28	0.668
Tetrachloroethene	166/131	595.52	595.98	595.75	0.0388
					Average: 0.24

PM/DM = Parent Mass/Daughter Mass

icps = ion counts per second

ppbv = parts per billion by volume

% = Percent

TABLE 3 (continued)
Summary of Response Factors and Error Bars for 20 May through 22 May 2008
Delfasco Forge Site
Grand Prairie, Texas
July 2008

Calibration Files: DFF031 and DFF039 on 22 May 2008 Used for Survey Files: DFF033 to DFF038					
Compound	PM/DM	Initial Response Factor (icps/ppbv)	Final Response Factor (icps/ppbv)	Intermediate Response Factor (icps/ppbv)	Error Bar (%)
Dichloroethene	96/61	432.33	390.52	410.36	5.08
Dichloroethene	98/61	154.62	148.52	151.51	2.01
					Average: 3.5
Trichloroethene	130/95	709.09	683.11	695.86	1.87
Trichloroethene	132/95	246.77	229.08	237.60	3.72
Trichloroethene	132/97	481.31	446.17	463.08	3.79
					Average: 3.1
Tetrachloroethene	164/129	701.65	671.50	686.24	2.20
Tetrachloroethene	166/129	258.46	254.12	256.27	0.846
Tetrachloroethene	166/131	738.80	728.80	733.77	0.681
					Average: 1.2

PM/DM = Parent Mass/Daughter Mass
 icps = ion counts per second
 ppbv = parts per billion by volume
 % = Percent

TABLE 4
Summary of Detection and Quantitation Limit Data for 20 May through 22 May 2008
Delfasco Forge Site
Grand Prairie, Texas
July 2008

Calibration Files: DFF001 and DFF009 on 20 May 2008 Used for Survey Files: DFF003 to DFF008					
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
Dichloroethene	96/61	593.66	4.1111	0.0208	0.0693
Dichloroethene	98/61	203.94	6.2408	0.0918	0.306
			Average:	0.056	0.19
Trichloroethene	130/95	1182.0	9.8184	0.0249	0.0831
Trichloroethene	132/95	379.55	6.4625	0.0511	0.170
Trichloroethene	132/97	680.67	3.8124	0.0168	0.0560
			Average:	0.031	0.10
Tetrachloroethene	164/129	595.03	6.7003	0.0338	0.113
Tetrachloroethene	166/129	295.95	4.8912	0.0496	0.165
Tetrachloroethene	166/131	787.13	7.0711	0.0270	0.0898
			Average:	0.037	0.12

Calibration Files: DFF009 and DFF014 on 20 May 2008 Used for Survey Files: DFF010 to DFF013					
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
Dichloroethene	96/61	643.78	5.2847	0.0246	0.0821
Dichloroethene	98/61	221.58	5.2002	0.0704	0.235
			Average:	0.048	0.16
Trichloroethene	130/95	1322.2	24.363	0.0553	0.184
Trichloroethene	132/95	406.96	13.509	0.0996	0.332
Trichloroethene	132/97	735.53	15.440	0.0630	0.210
			Average:	0.073	0.24
Tetrachloroethene	164/129	556.78	13.296	0.0716	0.239
Tetrachloroethene	166/129	327.10	14.579	0.134	0.446
Tetrachloroethene	166/131	880.51	27.969	0.0953	0.318
			Average:	0.10	0.33

PM/DM = Parent Mass/Daughter Mass

icps = ion counts per second

ppbv = parts per billion by volume

TABLE 4 (continued)
Summary of Detection and Quantitation Limit Data for 20 May through 22 May 2008
Delfasco Forge Site
Grand Prairie, Texas
July 2008

Calibration Files: DFF014 and DFF019 on 20 May 2008 Used for Survey Files: DFF015 to DFF018 and DFF021					
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
Dichloroethene	96/61	573.28	5.2612	0.0275	0.0918
Dichloroethene	98/61	201.78	5.0969	0.0758	0.253
Average:			0.052	0.17	
Trichloroethene	130/95	1178.8	11.313	0.0288	0.0960
Trichloroethene	132/95	364.12	8.8767	0.0731	0.244
Trichloroethene	132/97	659.45	6.9201	0.0315	0.105
Average:			0.044	0.15	
Tetrachloroethene	164/129	543.68	5.4744	0.0302	0.101
Tetrachloroethene	166/129	317.52	5.3074	0.0501	0.167
Tetrachloroethene	166/131	856.39	9.9608	0.0349	0.116
Average:			0.038	0.13	

Calibration File: DFF022 at 09:00:23 on 21 May 2008 Used for Survey File: DFF023					
Compound	PM/DM	Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
Dichloroethene	96/61	374.11	3.8950	0.0312	0.104
Dichloroethene	98/61	130.79	5.6526	0.130	0.432
Average:			0.080	0.27	
Trichloroethene	130/95	714.95	9.9395	0.0417	0.139
Trichloroethene	132/95	236.03	4.3582	0.0554	0.185
Trichloroethene	132/97	455.55	3.0023	0.0198	0.0659
Average:			0.039	0.13	
Tetrachloroethene	164/129	580.21	8.7762	0.0454	0.151
Tetrachloroethene	166/129	202.18	5.6561	0.0839	0.280
Tetrachloroethene	166/131	560.44	10.193	0.0546	0.182
Average:			0.061	0.20	

PM/DM = Parent Mass/Daughter Mass

icps = ion counts per second

ppbv = parts per billion by volume

TABLE 4 (continued)
Summary of Detection and Quantitation Limit Data for 20 May through 22 May 2008
Delfasco Forge Site
Grand Prairie, Texas
July 2008

Calibration Files: DFF024 and DFF029 on 21 May 2008 Used for Survey Files: DFF026, DFF027, and DFF028					
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
Dichloroethene	96/61	351.69	3.7294	0.0318	0.106
Dichloroethene	98/61	125.93	7.9501	0.189	0.631
		Average:	0.11	0.11	0.37
Trichloroethene	130/95	693.25	6.3772	0.0276	0.0920
Trichloroethene	132/95	239.35	5.9930	0.0751	0.250
Trichloroethene	132/97	459.86	3.3304	0.0217	0.0724
		Average:	0.041	0.041	0.14
Tetrachloroethene	164/129	618.02	8.5534	0.0415	0.138
Tetrachloroethene	166/129	215.28	5.0176	0.0699	0.233
Tetrachloroethene	166/131	595.75	7.4220	0.0374	0.125
		Average:	0.050	0.050	0.17

Calibration Files: DFF031 and DFF039 on 22 May 2008 Used for Survey Files: DFF033 to DFF038					
Compound	PM/DM	Intermediate Response Factor (icps/ppbv)	Standard Deviation (icps)	Detection Limit (ppbv)	Quantitation Limit (ppbv)
Dichloroethene	96/61	410.36	5.0969	0.0373	0.124
Dichloroethene	98/61	151.51	5.4223	0.107	0.358
		Average:	0.072	0.072	0.24
Trichloroethene	130/95	695.86	7.3158	0.0315	0.105
Trichloroethene	132/95	237.60	5.3661	0.0678	0.226
Trichloroethene	132/97	463.08	5.9668	0.0387	0.129
		Average:	0.046	0.046	0.15
Tetrachloroethene	164/129	686.24	10.208	0.0446	0.149
Tetrachloroethene	166/129	256.27	8.2175	0.0962	0.321
Tetrachloroethene	166/131	733.77	10.714	0.0438	0.146
		Average:	0.062	0.062	0.21

PM/DM = Parent Mass/Daughter Mass

icps = ion counts per second

ppbv = parts per billion by volume

FIGURES

Figure 1a

TAGA File Event Summary			
File: DFF003 Acquired on 20 May 2008 at 08:17:53			
Title: Unit 002 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.1	152	Start of the pre-entry ambient
B	3.2	225	End of the pre-entry ambient
C	5.2	372	Entering the unit
D	6.4	454	Start of the bathroom
E	7.4	526	End of the bathroom
F	7.9	561	Start of the crawl space
G	8.9	632	End of the crawl space
H	10.5	746	Start of the closet with hatch
I	11.6	819	End of the closet with hatch
J	13.1	929	Exiting the unit
K	13.5	957	Start of the post-exit ambient
L	14.5	1029	End of the post-exit ambient
M	16.6	1173	Start of the 30 mL/min spike
N	17.6	1245	End of the 30 mL/min spike

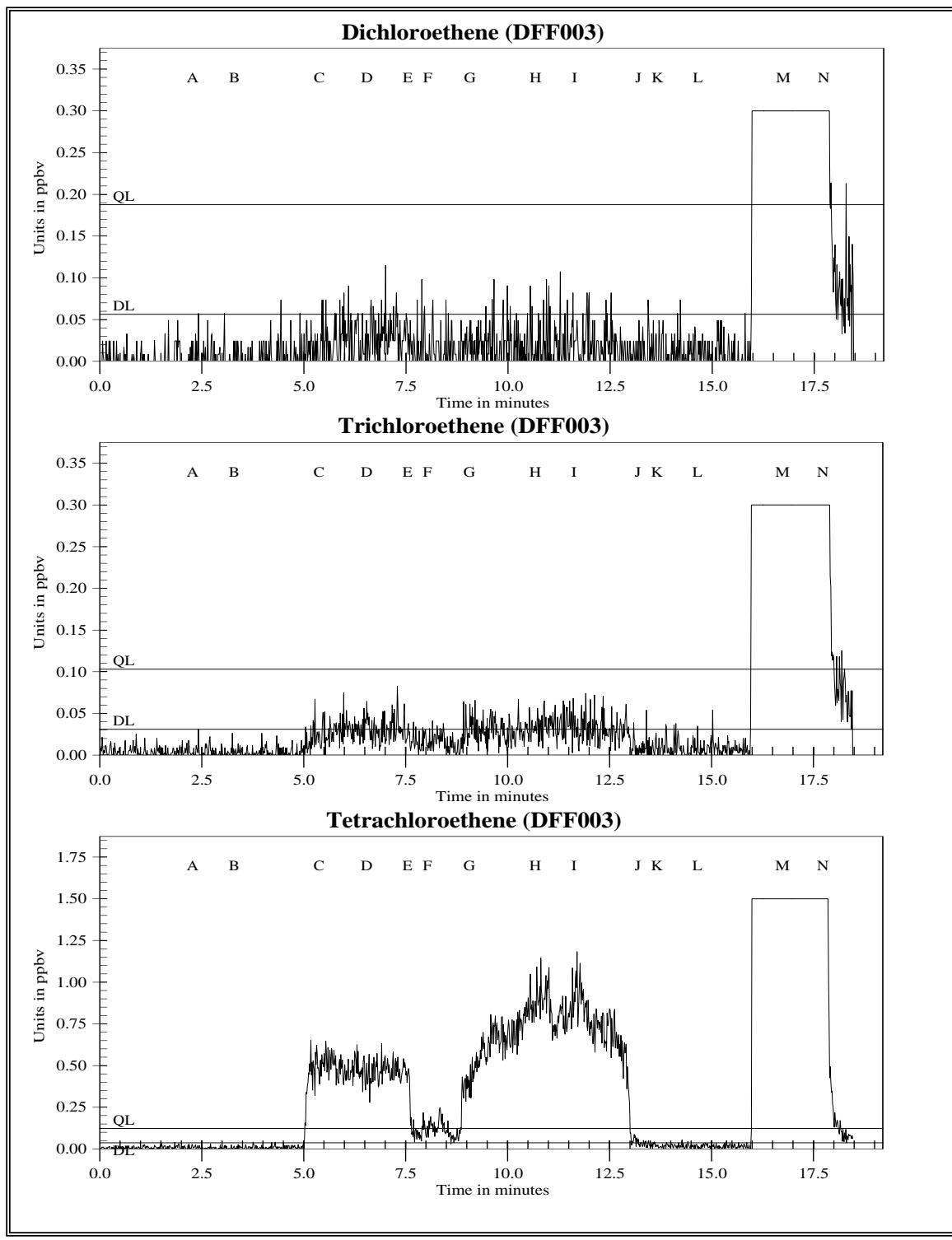


Figure 1b Unit 002 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 1c

TAGA Target Compound Summary for Unit 002 Preliminary Survey File: DFF003 Acquired on 20 May 2008 at 08:17:53				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.056	0.031	0.037
Quantitation Limits - QL:		0.19	0.10	0.12
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.056	DL=0.031	DL=0.037
D - E	Bathroom	DL=0.056	0.032J	0.47
F - G	Crawl space	DL=0.056	DL=0.031	0.13
H - I	Closet with hatch	DL=0.056	0.036J	0.84
K - L	Post-exit ambient	DL=0.056	DL=0.031	DL=0.037
M - N	30 mL/min spike	6.5	5.9	6.3

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 2a

TAGA File Event Summary			
File: DFF004 Acquired on 20 May 2008 at 08:58:56			
Title: Unit 003 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.2	155	Start of the pre-entry ambient
B	3.2	226	End of the pre-entry ambient
C	7.4	523	Entering the unit
D	8.4	595	Start of the closet with a hatch
E	9.4	669	End of the closet with a hatch
F	9.8	697	Start of the crawl space
G	10.9	770	End of the crawl space
H	11.5	811	Start of the dry cleaning bag
I	12.5	885	End of the dry cleaning bag
J	13.0	918	Exiting the unit
K	14.0	993	Start of the post-exit ambient
L	15.1	1066	End of the post-exit ambient
M	16.3	1156	Start of the 30 mL/min spike
N	17.4	1233	End of the 30 mL/min spike

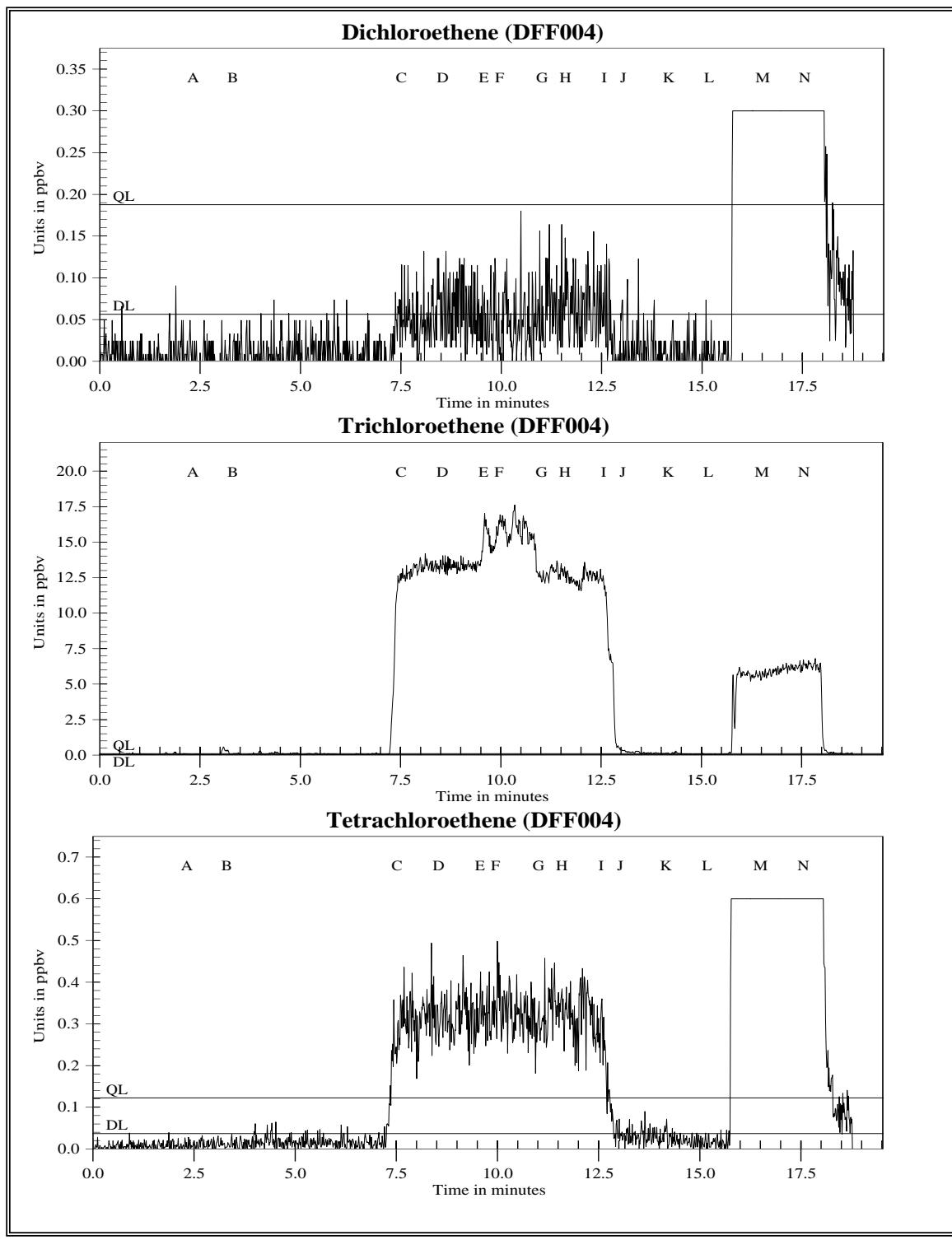


Figure 2b Unit 003 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 2c

TAGA Target Compound Summary for Unit 003 Preliminary Survey File: DFF004 Acquired on 20 May 2008 at 08:58:56				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.056	0.031	0.037
Quantitation Limits - QL:		0.19	0.10	0.12
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.056	0.10J	DL=0.037
D - E	Closet with a hatch	0.065J	13.	0.32
F - G	Crawl space	DL=0.056	16.	0.33
H - I	Dry cleaning bag	0.066J	13.	0.32
K - L	Post-exit ambient	DL=0.056	0.10J	DL=0.037
M - N	30 mL/min spike	7.1	5.9	6.1

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 3a

TAGA File Event Summary			
File: DFF005 Acquired on 20 May 2008 at 09:39:20			
Title: Unit 004 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	4.4	311	Start of the pre-entry ambient
B	5.8	411	End of the pre-entry ambient
C	8.4	595	Start of the crawl space
D	9.4	668	End of the crawl space
E	12.1	856	Start of the post-exit ambient
F	14.0	992	End of the post-exit ambient
G	17.5	1240	Start of the 30 mL/min spike
H	18.5	1311	End of the 30 mL/min spike

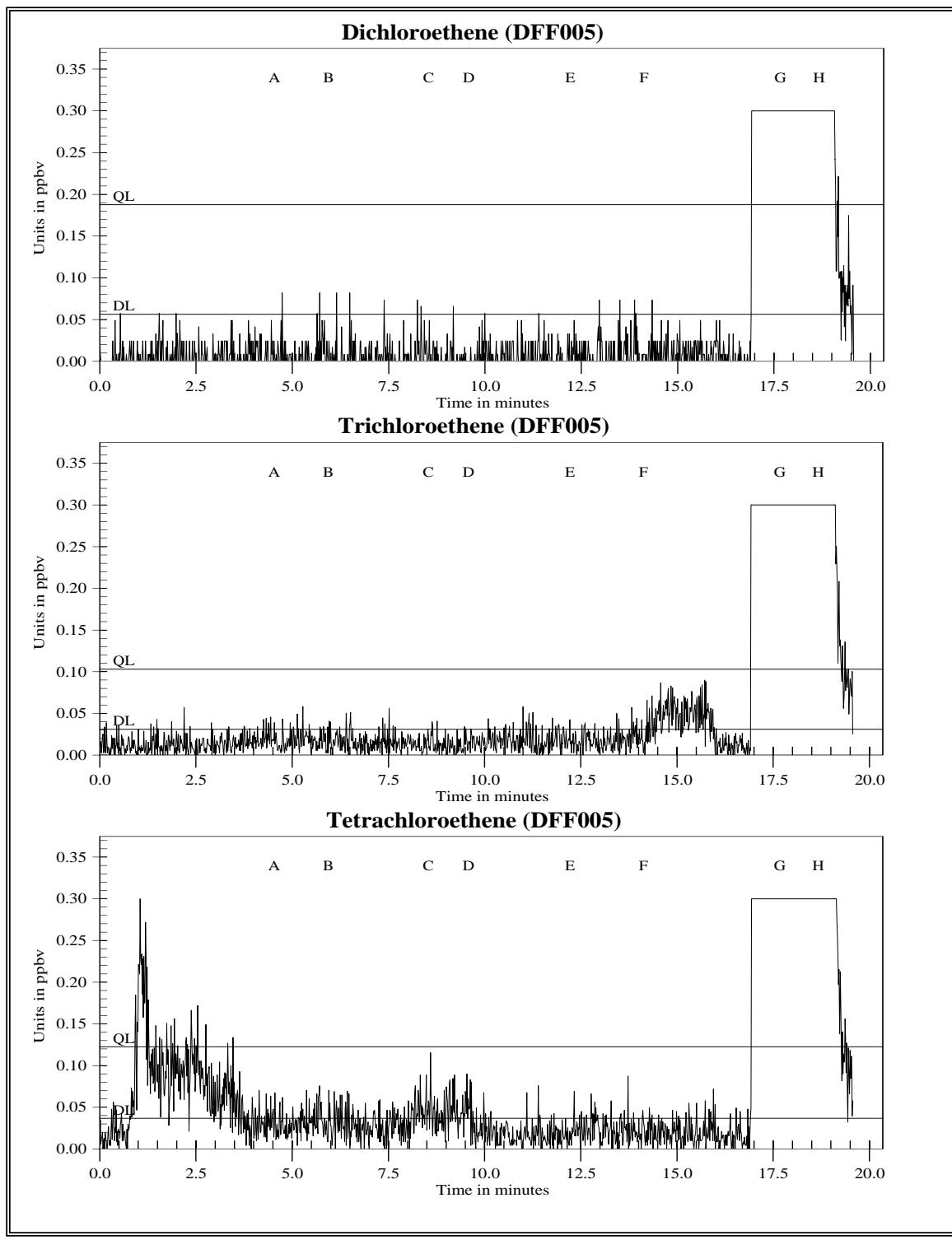


Figure 3b Unit 004 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 3c

TAGA Target Compound Summary for Unit 004 Preliminary Survey File: DFF005 Acquired on 20 May 2008 at 09:39:20				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.056	0.031	0.037
Quantitation Limits - QL:		0.19	0.10	0.12
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.056	DL=0.031	DL=0.037
C - D	Crawl space	DL=0.056	DL=0.031	0.044J
E - F	Post-exit ambient	DL=0.056	DL=0.031	DL=0.037
G - H	30 mL/min spike	6.9	6.0	5.7

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 4a

TAGA File Event Summary			
File: DFF006 Acquired on 20 May 2008 at 10:28:18			
Title: Unit 005 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.0	145	Start of the pre-entry ambient
B	3.1	218	End of the pre-entry ambient
C	4.5	322	Entering the unit
D	5.2	368	Start of the closet with a hatch
E	6.2	440	End of the closet with a hatch
F	6.7	475	Start of the crawl space
G	7.7	548	End of the crawl space
H	8.2	580	Exiting the unit
I	9.2	652	Start of the post-exit ambient
J	10.2	723	End of the post-exit ambient
K	11.5	817	Start of the 30 mL/min spike
L	12.7	902	End of the 30 mL/min spike

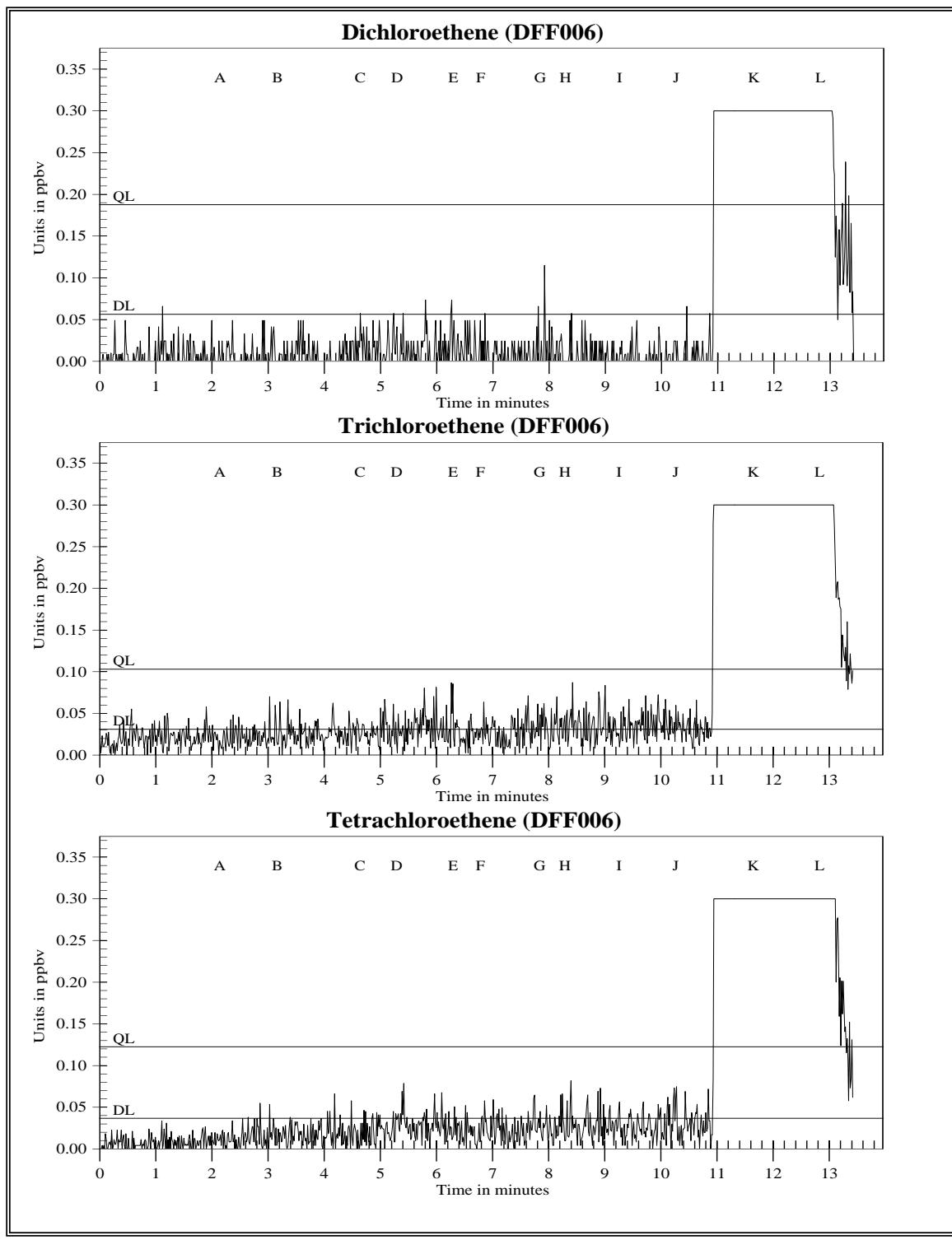


Figure 4b Unit 005 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 4c

TAGA Target Compound Summary for Unit 005 Preliminary Survey File: DFF006 Acquired on 20 May 2008 at 10:28:18				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.056	0.031	0.037
Quantitation Limits - QL:		0.19	0.10	0.12
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.056	DL=0.031	DL=0.037
D - E	Closet with a hatch	DL=0.056	0.032J	DL=0.037
F - G	Crawl space	DL=0.056	DL=0.031	DL=0.037
I - J	Post-exit ambient	DL=0.056	0.035J	DL=0.037
K - L	30 mL/min spike	7.7	6.8	6.3

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 5a

TAGA File Event Summary			
File: DFF007 Acquired on 20 May 2008 at 11:03:17			
Title: Unit 006 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.1	152	Start of the pre-entry ambient
B	3.1	221	End of the pre-entry ambient
C	5.9	415	Entering the unit
D	7.1	503	Start of the closet
E	8.1	575	End of the closet
F	9.0	639	Start of the crawl space
G	10.0	710	End of the crawl space
H	10.9	772	Exiting the unit
I	11.5	811	Start of the post-exit ambient
J	12.7	902	End of the post-exit ambient
K	13.8	980	Start of the 30 mL/min spike
L	14.9	1054	End of the 30 mL/min spike

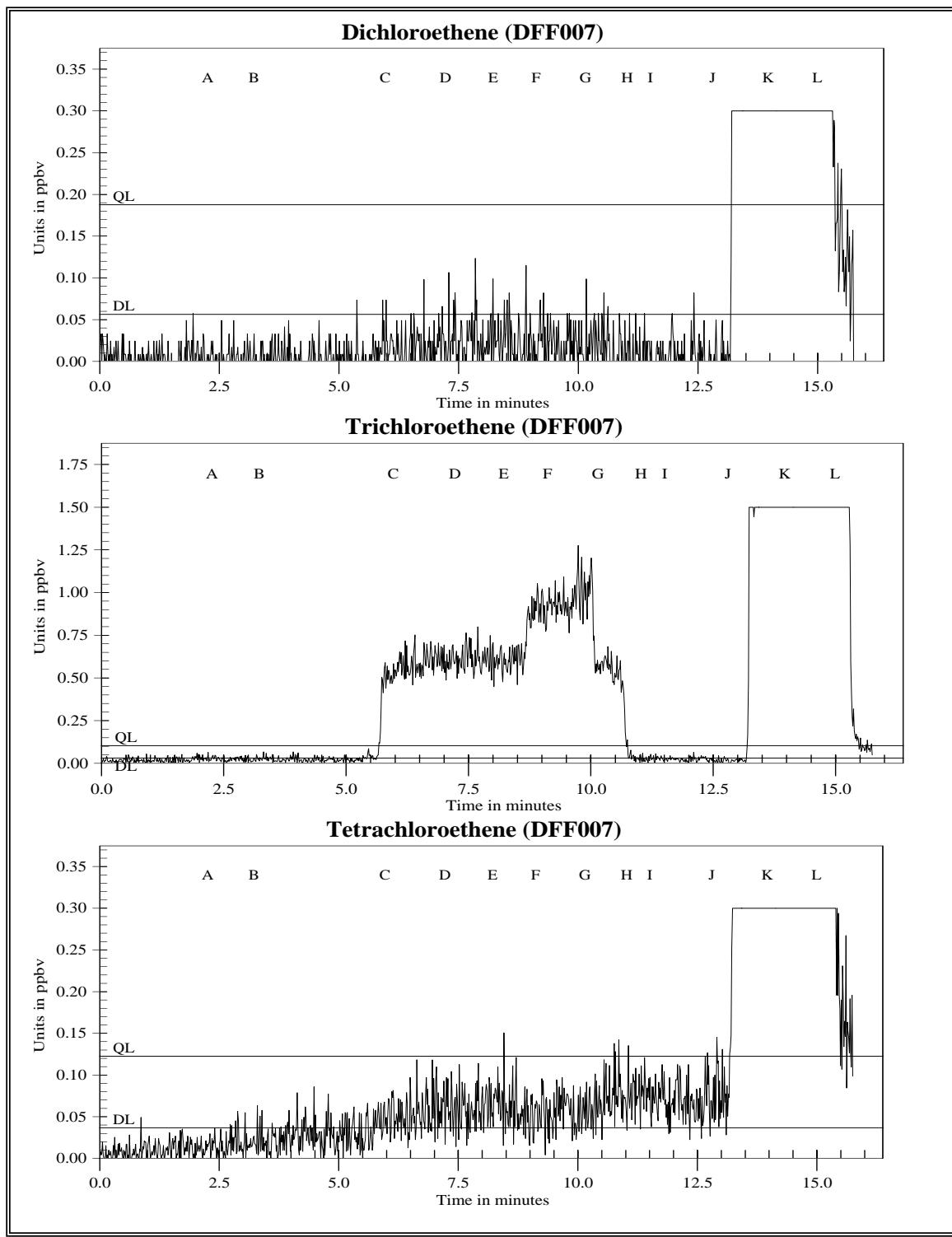


Figure 5b Unit 006 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 5c

TAGA Target Compound Summary for Unit 006 Preliminary Survey File: DFF007 Acquired on 20 May 2008 at 11:03:17				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.056	0.031	0.037
Quantitation Limits - QL:		0.19	0.10	0.12
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.056	DL=0.031	DL=0.037
D - E	Closet	DL=0.056	0.61	0.060J
F - G	Crawl space	DL=0.056	0.96	0.056J
I - J	Post-exit ambient	DL=0.056	DL=0.031	0.071J
K - L	30 mL/min spike	7.5	6.7	6.2

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 6a

TAGA File Event Summary			
File: DFF008 Acquired on 20 May 2008 at 11:48:18			
Title: Unit 007 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.1	152	Start of the pre-entry ambient
B	3.2	227	End of the pre-entry ambient
C	5.6	395	Entering the unit
D	6.1	430	Start of the closet
E	7.1	502	End of the closet
F	7.4	526	Start of the crawl space
G	8.5	602	End of the crawl space
H	9.3	661	Exiting the unit
I	9.9	704	Start of the post-exit ambient
J	11.1	783	End of the post-exit ambient
K	12.3	868	Start of the 30 mL/min spike
L	13.4	950	End of the 30 mL/min spike

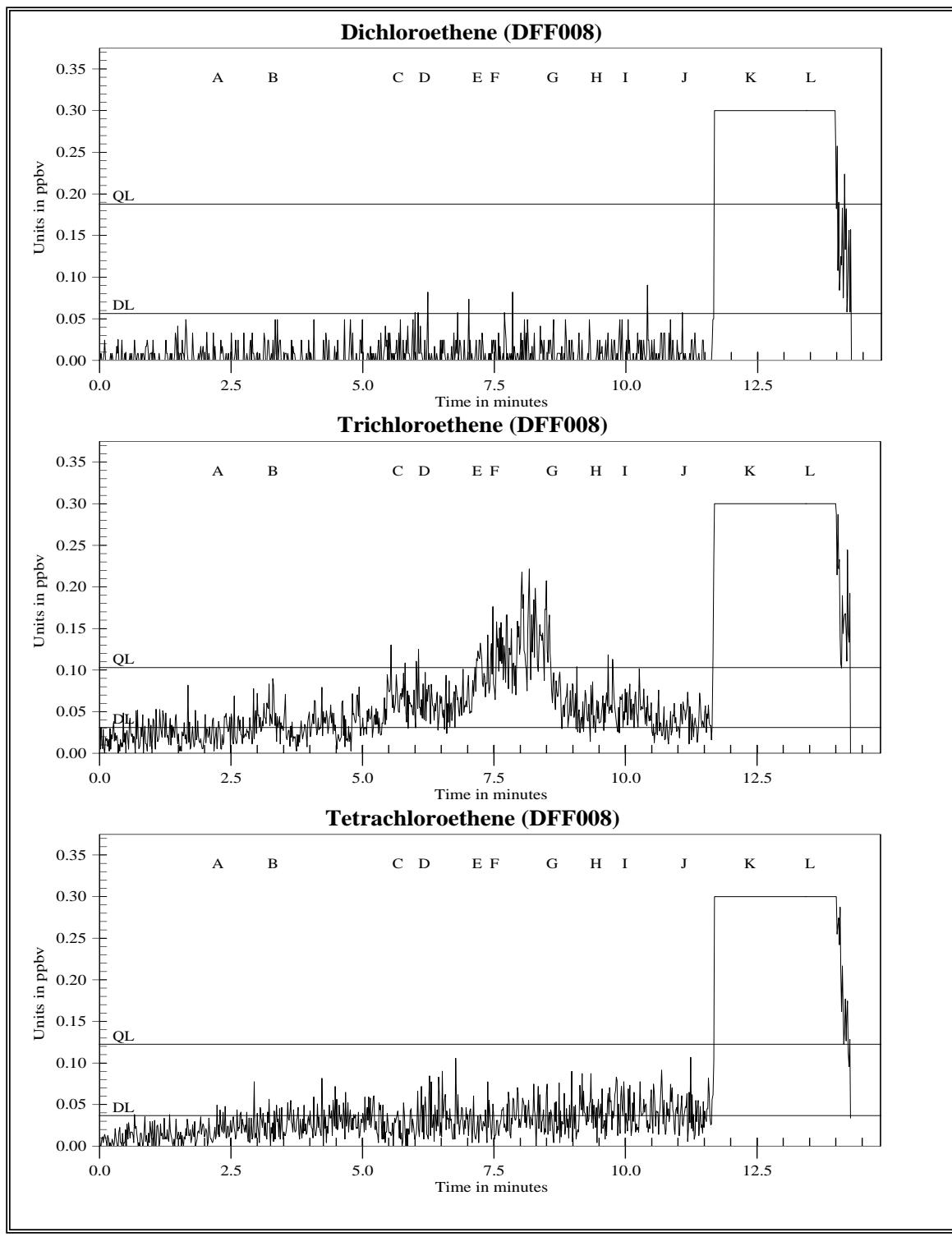


Figure 6b Unit 007 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 6c

TAGA Target Compound Summary for Unit 007 Preliminary Survey File: DFF008 Acquired on 20 May 2008 at 11:48:18				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.056	0.031	0.037
Quantitation Limits - QL:		0.19	0.10	0.12
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.056	0.031J	DL=0.037
D - E	Closet	DL=0.056	0.060J	DL=0.037
F - G	Crawl space	DL=0.056	0.13	DL=0.037
I - J	Post-exit ambient	DL=0.056	0.044J	0.040J
K - L	30 mL/min spike	7.3	6.4	5.3

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 7a

TAGA File Event Summary			
File: DFF010 Acquired on 20 May 2008 at 14:01:12			
Title: Unit 008 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.2	153	Start of the pre-entry ambient
B	3.2	224	End of the pre-entry ambient
C	7.5	532	Entering the unit
D	8.0	566	Start of closet one
E	9.0	639	End of closet one
F	12.7	901	Start of hatch one
G	14.5	1030	End of hatch one
H	19.1	1352	Start of hatch two
I	20.3	1437	End of hatch two
J	21.3	1507	Exiting the unit
K	22.1	1564	Start of the post-exit ambient
L	23.1	1635	End of the post-exit ambient
M	24.2	1713	Start of the 30 mL/min spike
N	25.2	1783	End of the 30 mL/min spike

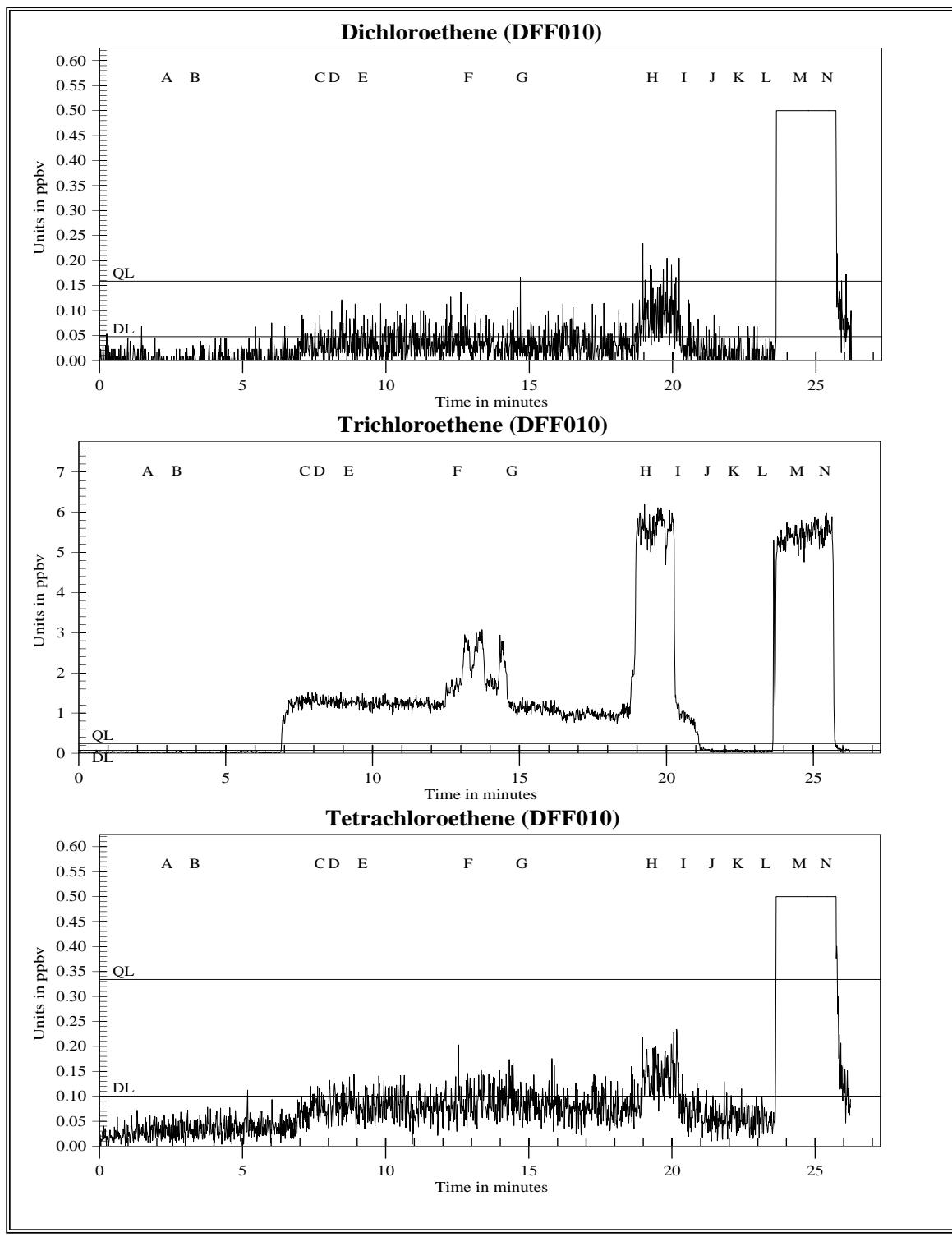


Figure 7b Unit 008 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 7c

TAGA Target Compound Summary for Unit 008 Preliminary Survey File: DFF010 Acquired on 20 May 2008 at 14:01:12				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.048	0.073	0.10
Quantitation Limits - QL:		0.16	0.24	0.33
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.048	DL=0.073	DL=0.10
D - E	Closet one	DL=0.048	1.3	DL=0.10
F - G	Hatch one	DL=0.048	2.1	DL=0.10
H - I	Hatch two	0.092J	5.5	0.14J
K - L	Post-exit ambient	DL=0.048	DL=0.073	DL=0.10
M - N	30 mL/min spike	6.1	5.5	6.0

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 8a

TAGA File Event Summary			
File: DFF011 Acquired on 20 May 2008 at 15:00:32			
Title: Unit 009 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.4	171	Start of the pre-entry ambient
B	7.1	501	End of the pre-entry ambient
C	12.0	849	Start of the crawl space
D	13.2	938	End of the crawl space
E	15.6	1107	Entering the unit
F	17.0	1202	Start of the living room
G	18.0	1274	End of the living room
H	18.3	1298	Start edge of the living room hatch
I	19.4	1370	End edge of the living room hatch
J	19.6	1386	Exiting the unit
K	20.1	1426	Start of the post-exit ambient
L	21.5	1525	End of the post-exit ambient
M	22.7	1609	Start of the 30 mL/min spike
N	23.8	1688	End of the 30 mL/min spike

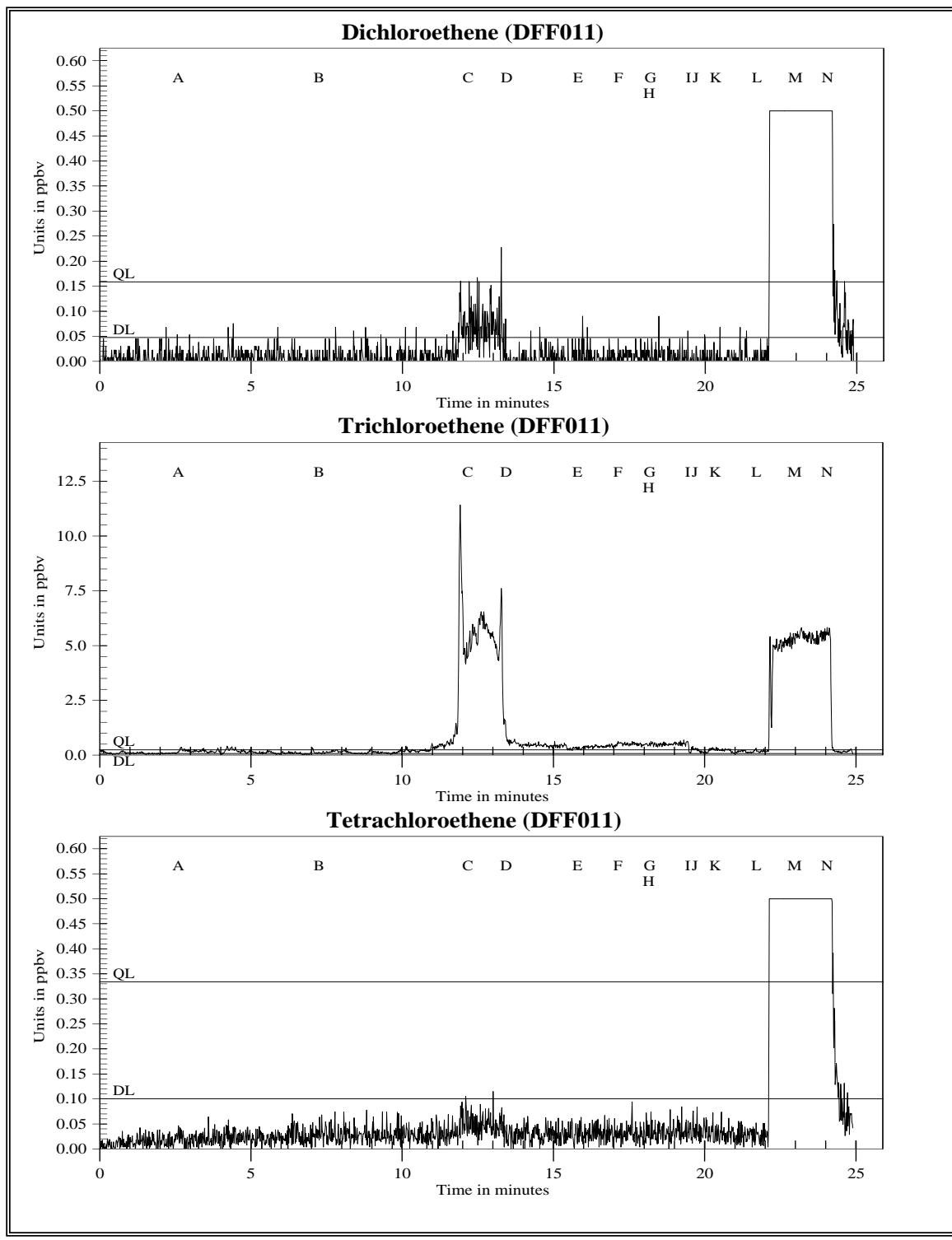


Figure 8b Unit 009 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 8c

TAGA Target Compound Summary for Unit 009 Preliminary Survey File: DFF011 Acquired on 20 May 2008 at 15:00:32				
		Dichloroethene	Trichloroethene	Tetrachloroethene
	Detection Limits - DL:	0.048	0.073	0.10
	Quantitation Limits - QL:	0.16	0.24	0.33
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.048	0.15J	DL=0.10
C - D	Crawl space	0.071J	5.4	DL=0.10
F - G	Living room	DL=0.048	0.50	DL=0.10
H - I	Edge of the living room hatch	DL=0.048	0.50	DL=0.10
K - L	Post-exit ambient	DL=0.048	0.20J	DL=0.10
M - N	30 mL/min spike	5.9	5.4	5.3

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 9a

TAGA File Event Summary			
File: DFF012 Acquired on 20 May 2008 at 16:04:56			
Title: Unit 010 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.1	152	Start of the pre-entry ambient
B	3.4	240	End of the pre-entry ambient
C	7.8	556	Entering the unit
D	8.4	595	Start of the closet
E	9.4	667	End of the closet
F	9.9	704	Start of the crawl space
G	11.0	778	End of the crawl space
H	11.9	842	Exiting the unit
I	13.0	918	Start of the post-exit ambient
J	14.0	991	End of the post-exit ambient
K	15.1	1068	Start of the 30 mL/min spike
L	16.3	1151	End of the 30 mL/min spike

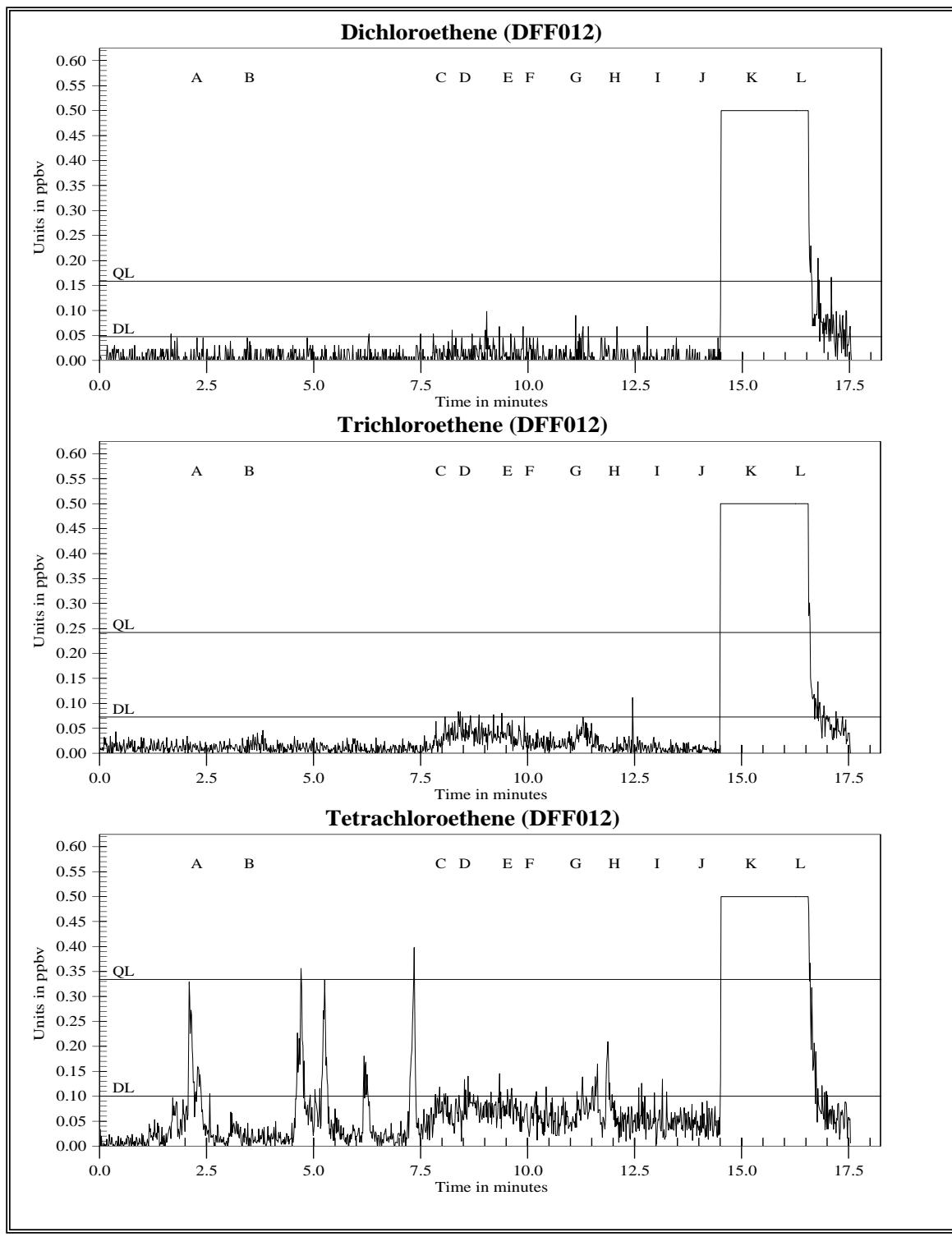


Figure 9b Unit 010 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 9c

TAGA Target Compound Summary for Unit 010 Preliminary Survey File: DFF012 Acquired on 20 May 2008 at 16:04:56				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.048	0.073	0.10
Quantitation Limits - QL:		0.16	0.24	0.33
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.048	DL=0.073	DL=0.10
D - E	Closet	DL=0.048	DL=0.073	DL=0.10
F - G	Crawl space	DL=0.048	DL=0.073	DL=0.10
I - J	Post-exit ambient	DL=0.048	DL=0.073	DL=0.10
K - L	30 mL/min spike	6.1	5.6	5.4

Concentrations are given in parts per billion by volume

Figure 10a

TAGA File Event Summary			
File: DFF013 Acquired on 20 May 2008 at 16:53:15			
Title: Unit 011 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.1	147	Start of the pre-entry ambient
B	3.1	217	End of the pre-entry ambient
C	4.8	339	Entering the unit
D	5.3	376	Start of the closet
E	6.3	449	End of the closet
F	8.6	612	Start of the crawl space
G	12.3	868	End of the crawl space
H	14.7	1041	Exiting the unit
I	15.6	1103	Start of the post-exit ambient
J	16.6	1174	End of the post-exit ambient
K	17.9	1266	Start of the 30 mL/min spike
L	18.9	1336	End of the 30 mL/min spike

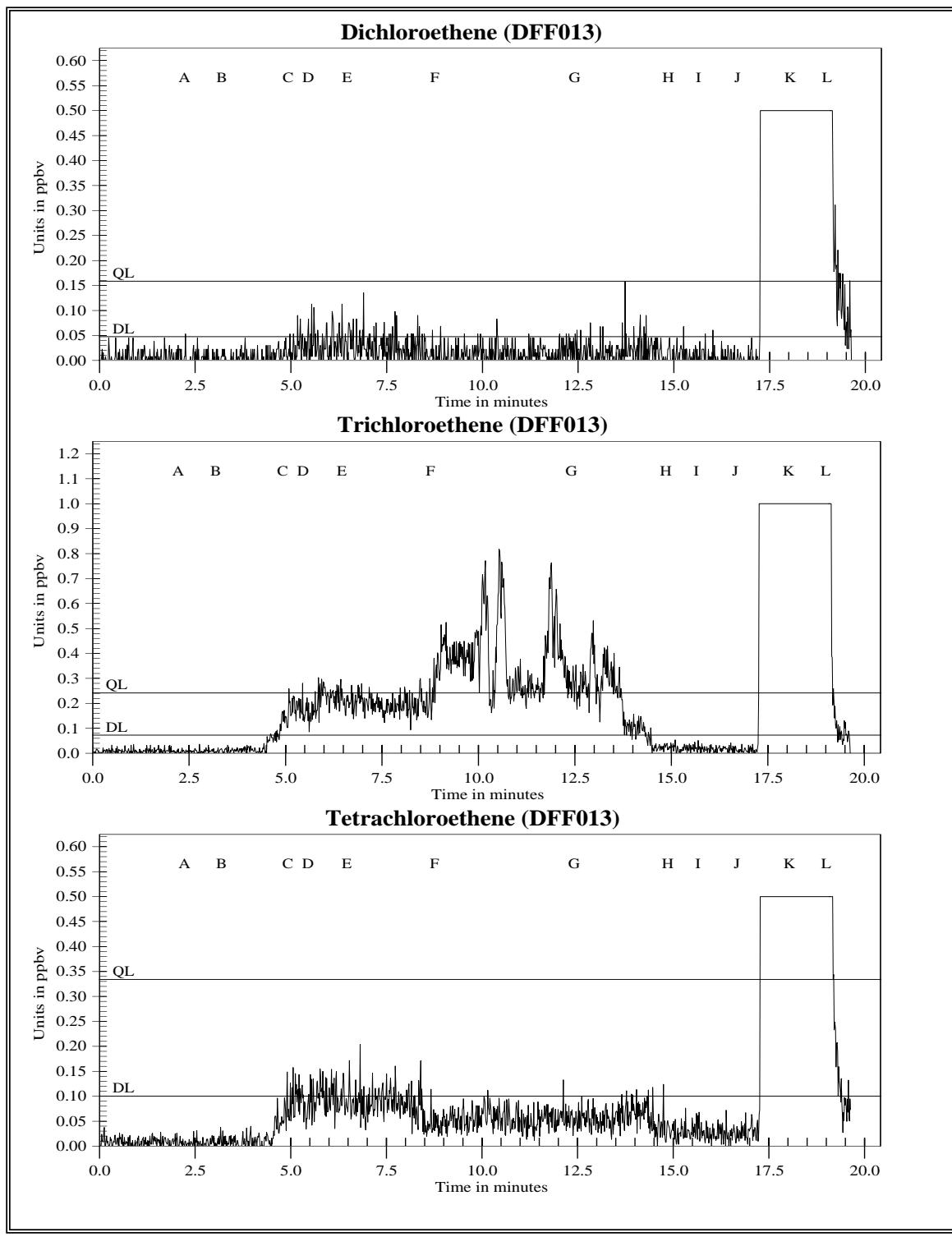


Figure 10b Unit 011 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 10c

TAGA Target Compound Summary for Unit 011 Preliminary Survey File: DFF013 Acquired on 20 May 2008 at 16:53:15				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.048	0.073	0.10
Quantitation Limits - QL:		0.16	0.24	0.33
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.048	DL=0.073	DL=0.10
D - E	Closet	DL=0.048	0.20J	DL=0.10
F - G	Crawl space	DL=0.048	0.38	DL=0.10
I - J	Post-exit ambient	DL=0.048	DL=0.073	DL=0.10
K - L	30 mL/min spike	7.1	6.1	5.4

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 11a

TAGA File Event Summary			
File: DFF015 Acquired on 20 May 2008 at 18:59:43			
Title: Unit 012 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.1	148	Start of the pre-entry ambient
B	3.2	230	End of the pre-entry ambient
C	3.9	275	Entering the unit
D	6.2	437	Start of the closet
E	7.2	513	End of the closet
F	7.8	555	Start of the crawl space
G	8.9	628	End of the crawl space
H	9.0	640	Start of the crawl space
I	10.1	713	End of the crawl space
J	10.8	767	Exiting the unit
K	11.9	842	Start of the post-exit ambient
L	12.9	915	End of the post-exit ambient
M	14.1	996	Start of the 30 mL/min spike
N	15.6	1102	End of the 30 mL/min spike

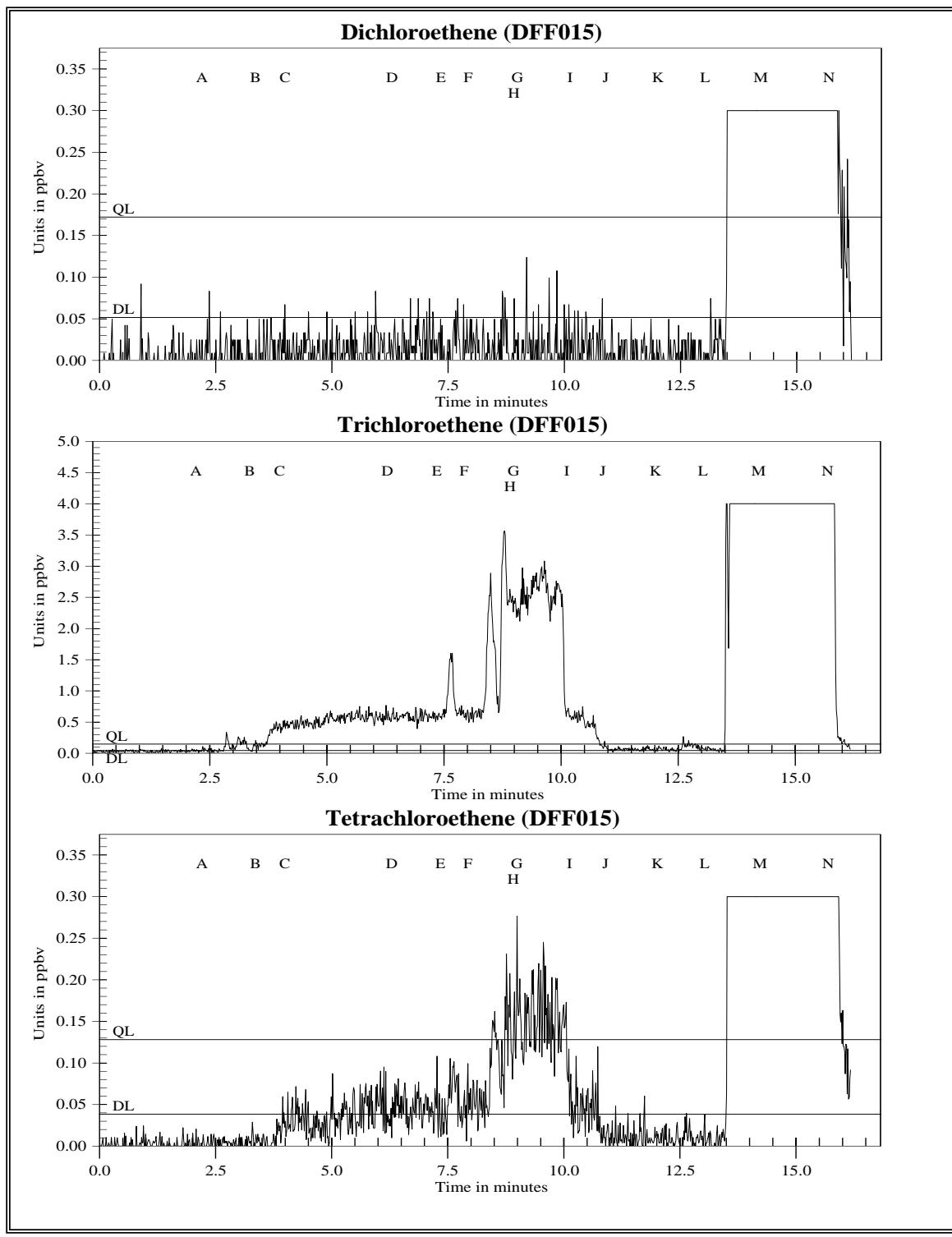


Figure 11b Unit 012 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 11c

TAGA Target Compound Summary for Unit 012 Preliminary Survey File: DFF015 Acquired on 20 May 2008 at 18:59:43				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.052	0.044	0.038
Quantitation Limits - QL:		0.17	0.15	0.13
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.052	0.088J	DL=0.038
D - E	Closet	DL=0.052	0.59	0.046J
F - G	Crawl space	DL=0.052	1.3	0.084J
H - I	Crawl space	DL=0.052	2.5	0.15
K - L	Post-exit ambient	DL=0.052	0.086J	DL=0.038
M - N	30 mL/min spike	7.2	6.7	5.3

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 12a

TAGA File Event Summary			
File: DFF016 Acquired on 20 May 2008 at 19:41:01			
Title: Unit 013 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.4	172	Start of the pre-entry ambient
B	3.4	243	End of the pre-entry ambient
C	5.3	378	Entering the unit
D	5.8	414	Start of the closet
E	6.9	487	End of the closet
F	7.9	559	Start of the crawl space
G	8.9	628	End of the crawl space
H	9.5	674	Exiting the unit
I	10.0	707	Start of the post-exit ambient
J	11.0	778	End of the post-exit ambient
K	12.3	872	Start of the 30 mL/min spike
L	13.3	942	End of the 30 mL/min spike

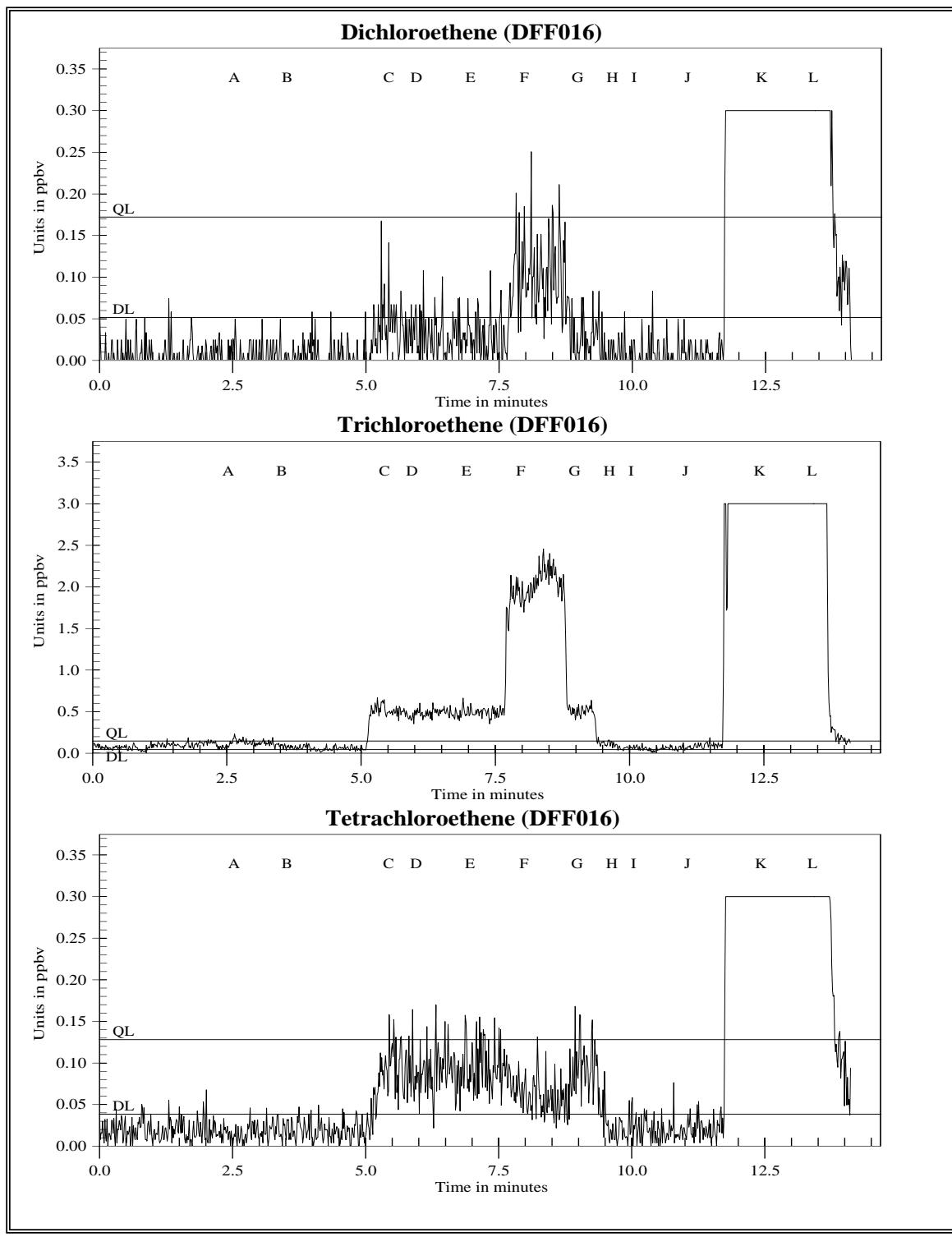


Figure 12b Unit 013 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 12c

TAGA Target Compound Summary for Unit 013 Preliminary Survey File: DFF016 Acquired on 20 May 2008 at 19:41:01				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.052	0.044	0.038
Quantitation Limits - QL:		0.17	0.15	0.13
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.052	0.13J	DL=0.038
D - E	Closet	DL=0.052	0.48	0.090J
F - G	Crawl space	0.098J	2.0	0.059J
I - J	Post-exit ambient	DL=0.052	0.058J	DL=0.038
K - L	30 mL/min spike	7.7	6.6	4.9

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 13a

TAGA File Event Summary			
File: DFF017 Acquired on 20 May 2008 at 20:09:04			
Title: Unit 014 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.3	161	Start of the pre-entry ambient
B	3.5	250	End of the pre-entry ambient
C	6.0	424	Entering the unit
D	6.6	471	Start of the bedroom
E	7.7	543	End of the bedroom
F	8.3	589	Start of the crawl space
G	9.3	662	End of the crawl space
H	10.1	718	Exiting the unit
I	11.1	783	Start of the post-exit ambient
J	12.0	852	End of the post-exit ambient
K	13.2	935	Start of the 30 mL/min spike
L	14.2	1008	End of the 30 mL/min spike

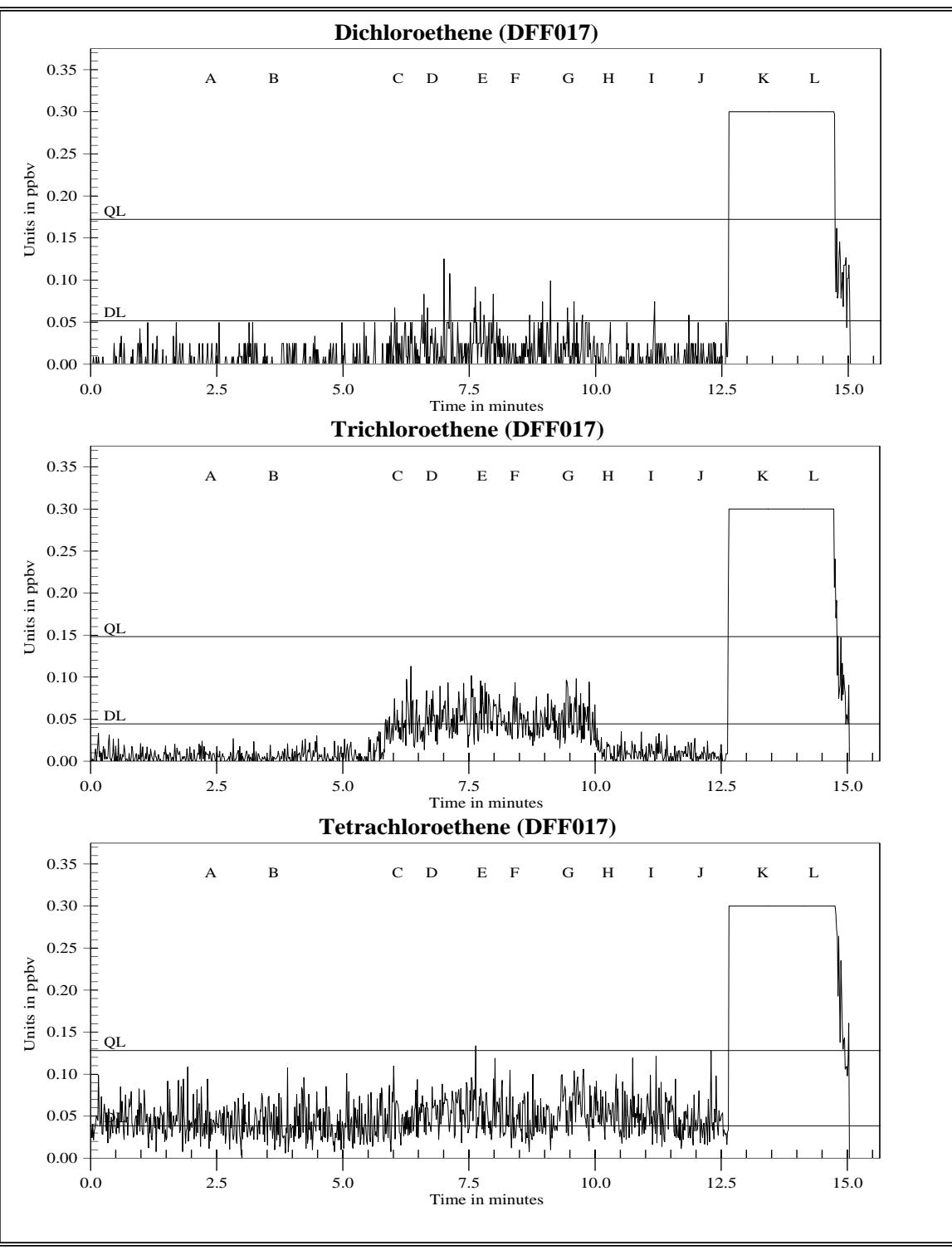


Figure 13b Unit 014 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 13c

TAGA Target Compound Summary for Unit 014 Preliminary Survey File: DFF017 Acquired on 20 May 2008 at 20:09:04				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.052	0.044	0.038
Quantitation Limits - QL:		0.17	0.15	0.13
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.052	DL=0.044	0.042J
D - E	Bedroom	DL=0.052	0.052J	0.058J
F - G	Crawl space	DL=0.052	0.047J	0.046J
I - J	Post-exit ambient	DL=0.052	DL=0.044	0.047J
K - L	30 mL/min spike	6.2	5.5	5.5

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 14a

TAGA File Event Summary			
File: DFF018 Acquired on 20 May 2008 at 20:42:38			
Title: Unit 015 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.3	164	Start of the pre-entry ambient
B	3.3	234	End of the pre-entry ambient
C	5.2	366	Entering the unit
D	5.4	381	Start of the closet
E	6.3	450	End of the closet
F	6.7	474	Exiting the unit
G	7.5	533	Start of the post-exit ambient
H	8.5	605	End of the post-exit ambient
I	9.7	686	Start of the 30 mL/min spike
J	10.7	757	End of the 30 mL/min spike

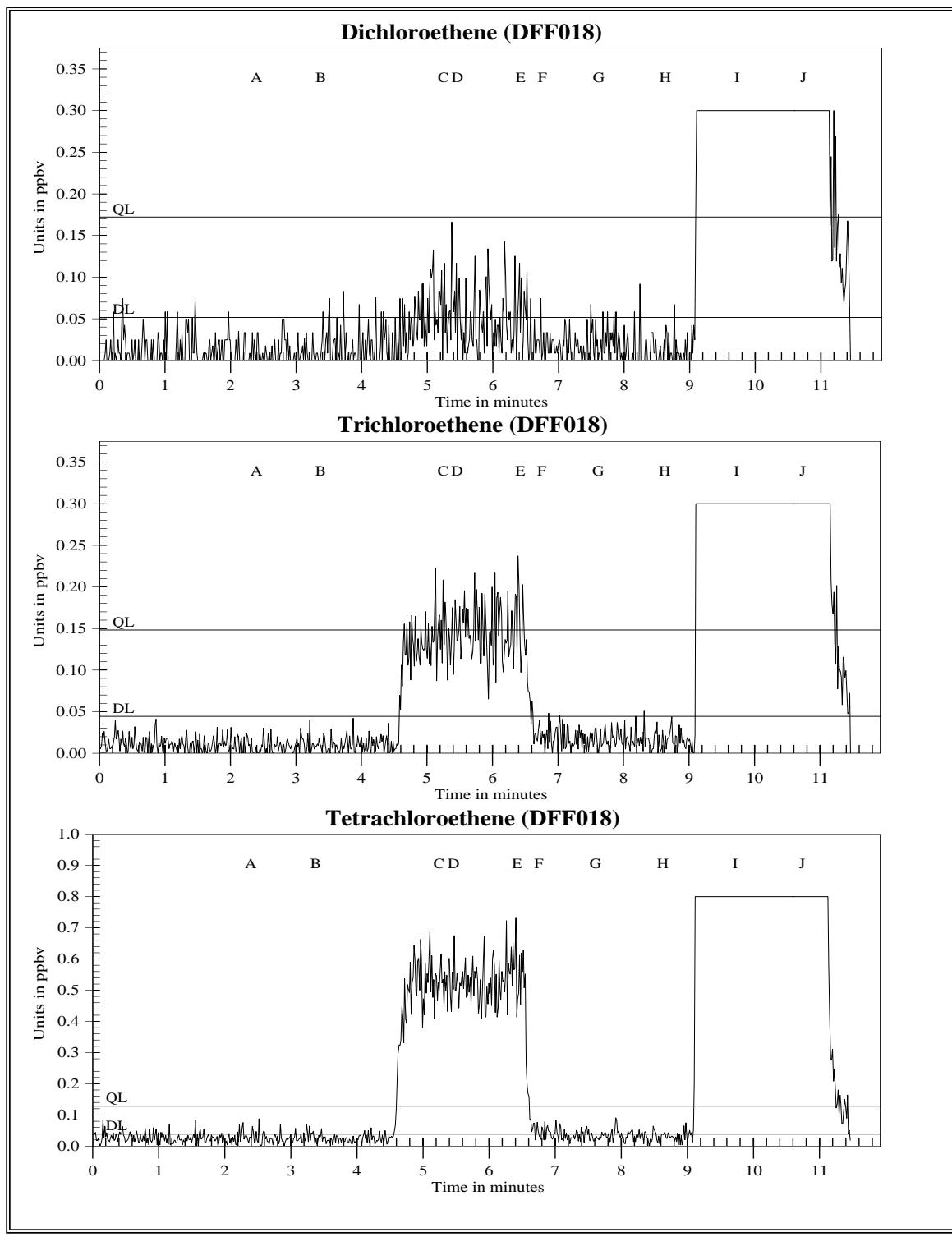


Figure 14b Unit 015 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 14c

TAGA Target Compound Summary for Unit 015 Preliminary Survey File: DFF018 Acquired on 20 May 2008 at 20:42:38				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.052	0.044	0.038
Quantitation Limits - QL:		0.17	0.15	0.13
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.052	DL=0.044	DL=0.038
D - E	Closet	DL=0.052	0.15J	0.52
G - H	Post-exit ambient	DL=0.052	DL=0.044	DL=0.038
I - J	30 mL/min spike	6.6	6.0	5.8

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 15a

TAGA File Event Summary			
File: DFF021 Acquired on 20 May 2008 at 22:25:26			
Title: Unit 015 Tedlar® Bag Analysis			
Flag	Time	Sequence	Description
A	4.8	338	Start of the Tedlar® bag
B	6.6	471	End of the Tedlar® bag
C	8.6	612	Start of the Tedlar® bag
D	10.8	763	End of the Tedlar® bag
E	17.1	1211	Start of the 30 mL/min spike
F	18.3	1296	End of the 30 mL/min spike

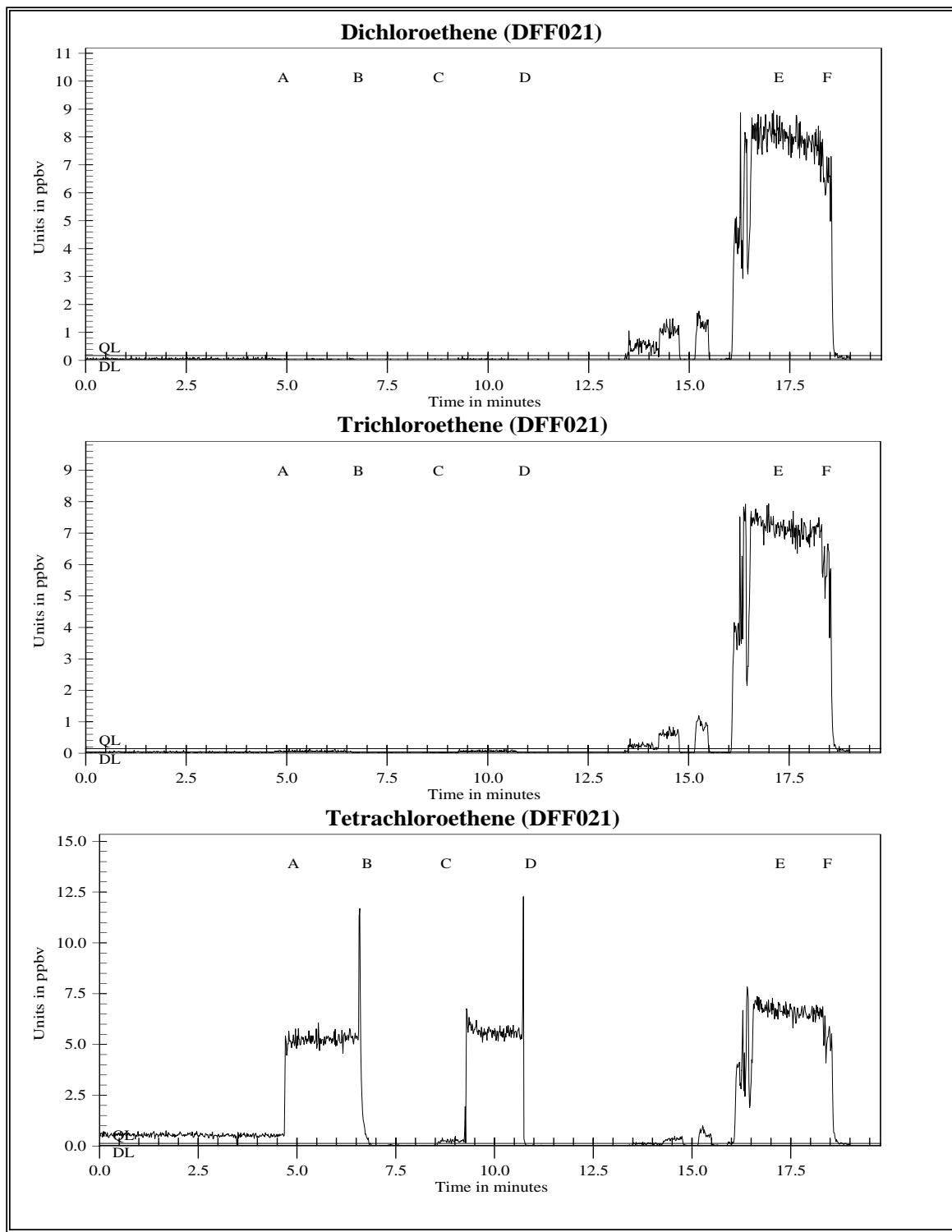


Figure 15b Unit 015 Tedlar® Bag Analysis for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 15c

TAGA Target Compound Summary for Unit 015 Tedlar® Bag Analysis File: DFF021 Acquired on 20 May 2008 at 22:25:26				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.052	0.044	0.038
Quantitation Limits - QL:		0.17	0.15	0.13
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Unit 015 Tedlar® bag	DL=0.052	0.067J	5.3
C - D	Unit 015 Tedlar® bag	DL=0.052	0.054J	4.0
E - F	30 mL/min spike	7.9	7.1	6.6

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 16a

TAGA File Event Summary			
File: DFF023 Acquired on 21 May 2008 at 09:29:31			
Title: Unit 001 Tedlar® Bag Analysis			
Flag	Time	Sequence	Description
A	2.5	177	Start of the Tedlar® bag
B	4.1	289	End of the Tedlar® bag
C	5.7	402	Start of the Tedlar® bag
D	7.2	512	End of the Tedlar® bag
E	9.9	700	Start of the 30 mL/min spike
F	11.2	794	End of the 30 mL/min spike

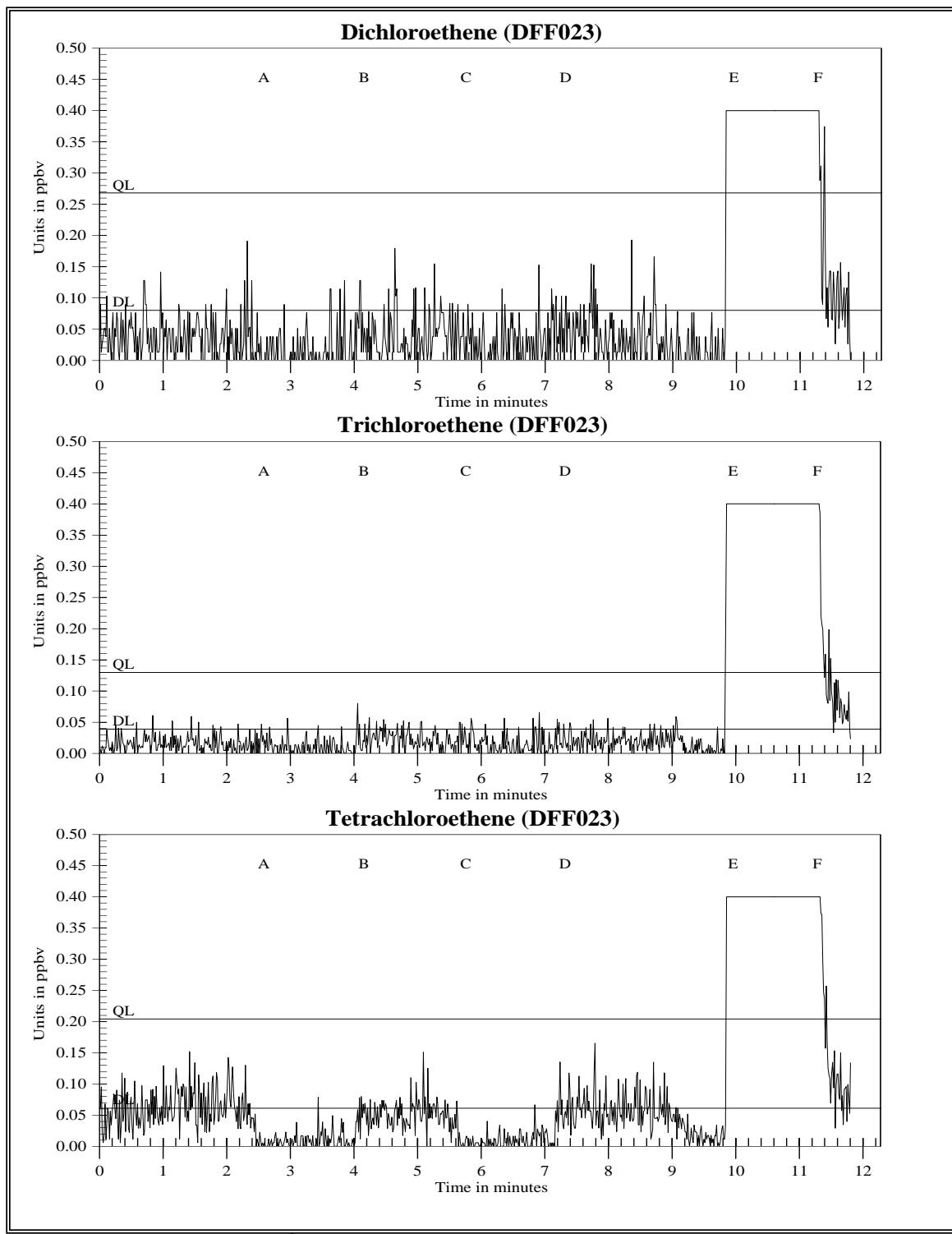


Figure 16b Unit 001 Tedlar® Bag Analysis for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 16c

TAGA Target Compound Summary for Unit 001 Tedlar® Bag Analysis File: DFF023 Acquired on 21 May 2008 at 09:29:31				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.080	0.039	0.061
Quantitation Limits - QL:		0.27	0.13	0.20
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Tedlar® bag sample	DL=0.080	DL=0.039	DL=0.061
C - D	Tedlar® bag sample	DL=0.080	DL=0.039	DL=0.061
E - F	30 mL/min spike	7.0	6.3	6.2

Concentrations are given in parts per billion by volume

Figure 17a

TAGA File Event Summary			
File: DFF026 Acquired on 21 May 2008 at 10:41:59			
Title: Unit 016 Preliminary Survey One			
Flag	Time	Sequence	Description
A	1.6	114	Start of the pre-entry ambient
B	2.6	185	End of the pre-entry ambient
C	8.5	605	Start of the crawl space
D	9.6	677	End of the crawl space
E	13.0	921	Start of the crawl space
F	14.0	994	End of the crawl space
G	15.1	1070	Start of the water pipes
H	16.1	1140	End of the water pipes
I	16.9	1195	Start of the post-exit ambient
J	17.9	1268	End of the post-exit ambient
K	19.3	1363	Start of the 30 mL/min spike
L	20.3	1435	End of the 30 mL/min spike

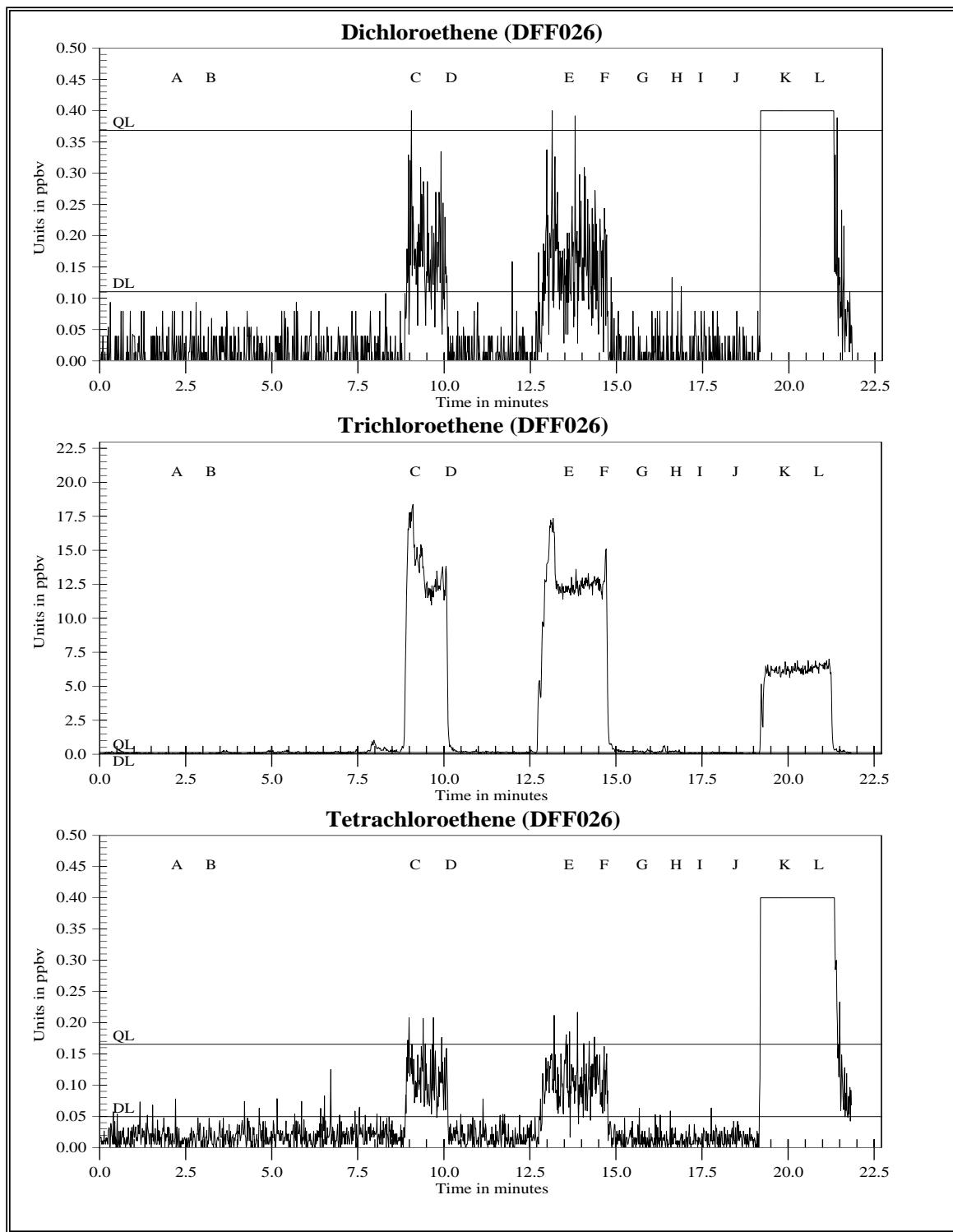


Figure 17b Unit 016 Preliminary Survey One for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 17c

TAGA Target Compound Summary for Unit 016 Preliminary Survey One File: DFF026 Acquired on 21 May 2008 at 10:41:59				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.11	0.041	0.050
Quantitation Limits - QL:		0.37	0.14	0.17
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.11	0.059J	DL=0.050
C - D	Crawl space	0.17J	13.	0.11J
E - F	Crawl space	0.16J	12.	0.11J
G - H	Water pipes	DL=0.11	0.21	DL=0.050
I - J	Post-exit ambient	DL=0.11	0.089J	DL=0.050
K - L	30 mL/min spike	6.9	6.2	6.1

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 18a

TAGA File Event Summary			
File: DFF027 Acquired on 21 May 2008 at 11:10:12			
Title: Unit 016 Preliminary Survey Two			
Flag	Offset Time	Offset Sequence	Description
A	2.1	150	Start of the pre-entry ambient
B	3.1	222	End of the pre-entry ambient
C	4.2	298	Entering the unit
D	5.0	353	Start of the kitchen
E	6.0	425	End of the kitchen
F	6.4	451	Start under the kitchen sink
G	7.4	524	End under the kitchen sink
H	8.0	565	Exiting the unit
I	8.3	591	Start of the post-exit ambient
J	9.3	660	End of the post-exit ambient
K	10.4	736	Start of the 30 mL/min spike
L	11.4	805	End of the 30 mL/min spike

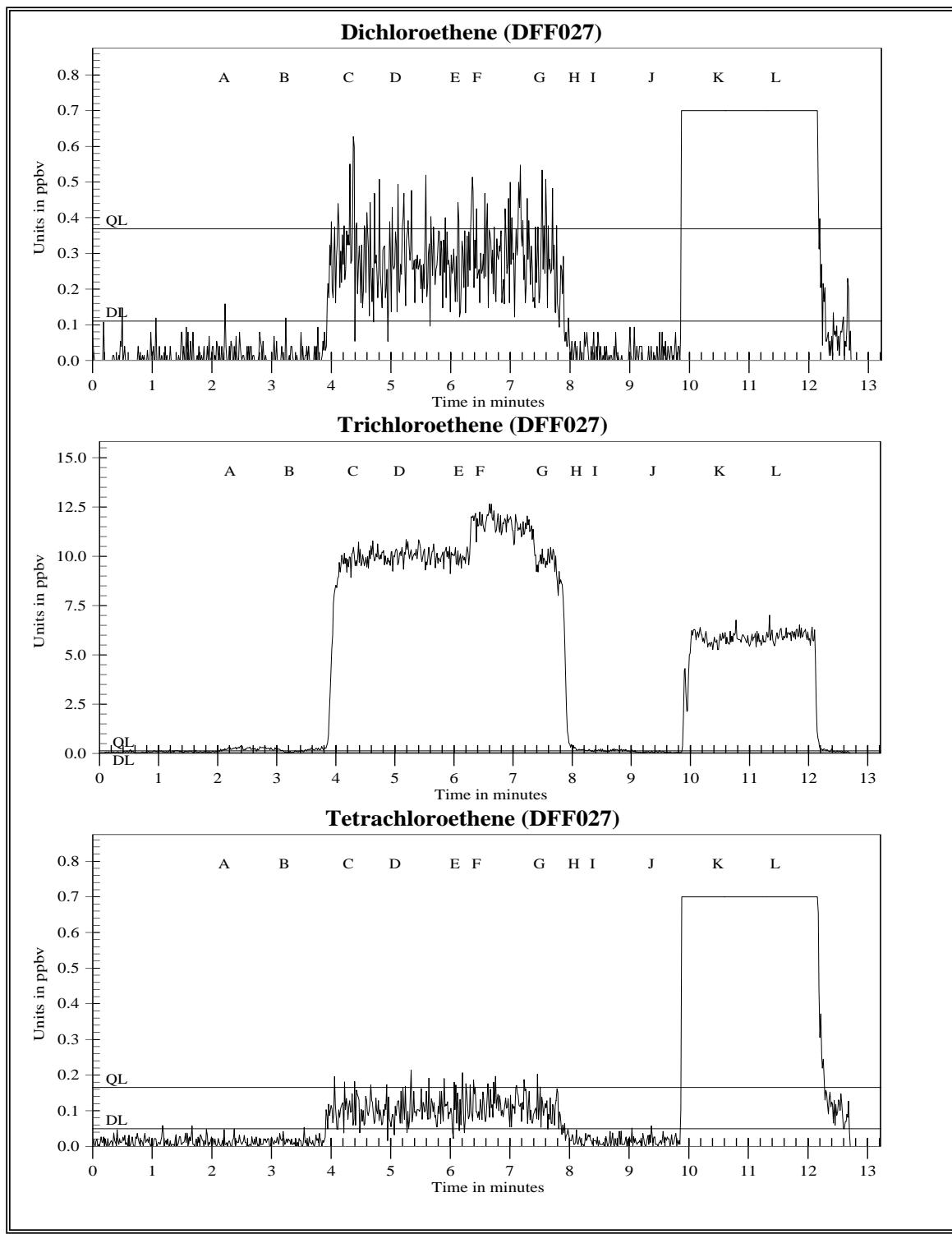


Figure 18b Unit 016 Preliminary Survey Two for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 18c

TAGA Target Compound Summary for Unit 016 Preliminary Survey Two File: DFF027 Acquired on 21 May 2008 at 11:10:12				
		Dichloroethene	Trichloroethene	Tetrachloroethene
	Detection Limits - DL:	0.11	0.041	0.050
	Quantitation Limits - QL:	0.37	0.14	0.17
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.11	0.24	DL=0.050
D - E	Kitchen	0.29J	10.	0.10J
F - G	Under the kitchen sink	0.30J	12.	0.12J
I - J	Post-exit ambient	DL=0.11	0.13J	DL=0.050
K - L	30 mL/min spike	6.4	5.8	5.9

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 19a

TAGA File Event Summary			
File: DFF028 Acquired on 21 May 2008 at 15:46:41			
Title: Unit 017 Preliminary Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.5	181	Start of the pre-entry ambient
B	3.5	251	End of the pre-entry ambient
C	6.3	443	Entering the unit
D	7.1	504	Start of the bathroom
E	8.1	574	End of the bathroom
F	9.3	657	Start of the crawl space
G	10.3	726	End of the crawl space
H	11.5	811	Exiting the unit
I	12.0	849	Start of the post-exit ambient
J	13.0	920	End of the post-exit ambient
K	14.0	992	Start of the 30 mL/min spike
L	15.0	1063	End of the 30 mL/min spike

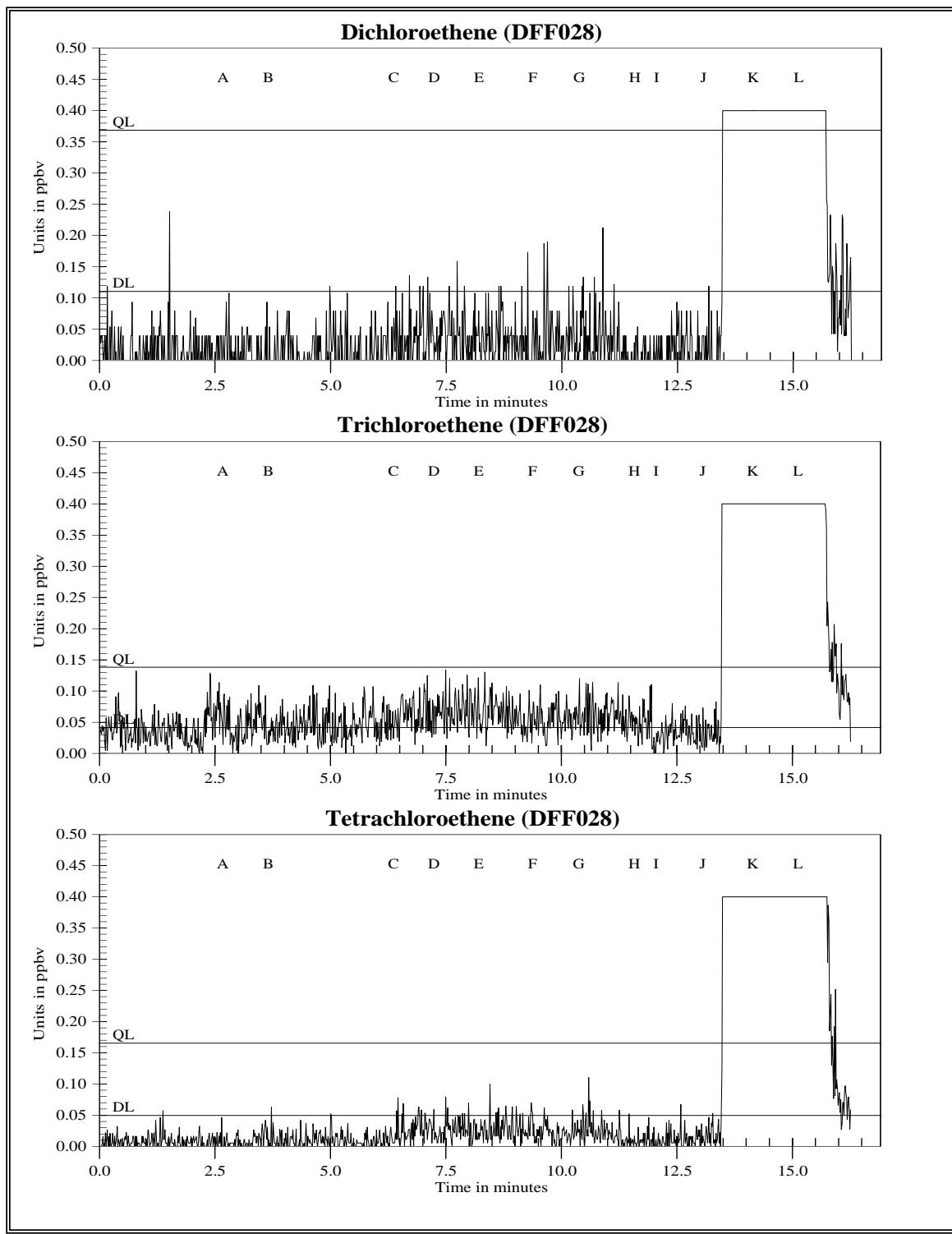


Figure 19b Unit 017 Preliminary Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 19c

TAGA Target Compound Summary for Unit 017 Preliminary Survey File: DFF028 Acquired on 21 May 2008 at 15:46:41				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.11	0.041	0.050
Quantitation Limits - QL:		0.37	0.14	0.17
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.11	0.050J	DL=0.050
D - E	Bathroom	DL=0.11	0.067J	DL=0.050
F - G	Crawl space	DL=0.11	0.055J	DL=0.050
I - J	Post-exit ambient	DL=0.11	DL=0.041	DL=0.050
K - L	30 mL/min spike	6.4	6.3	6.3

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

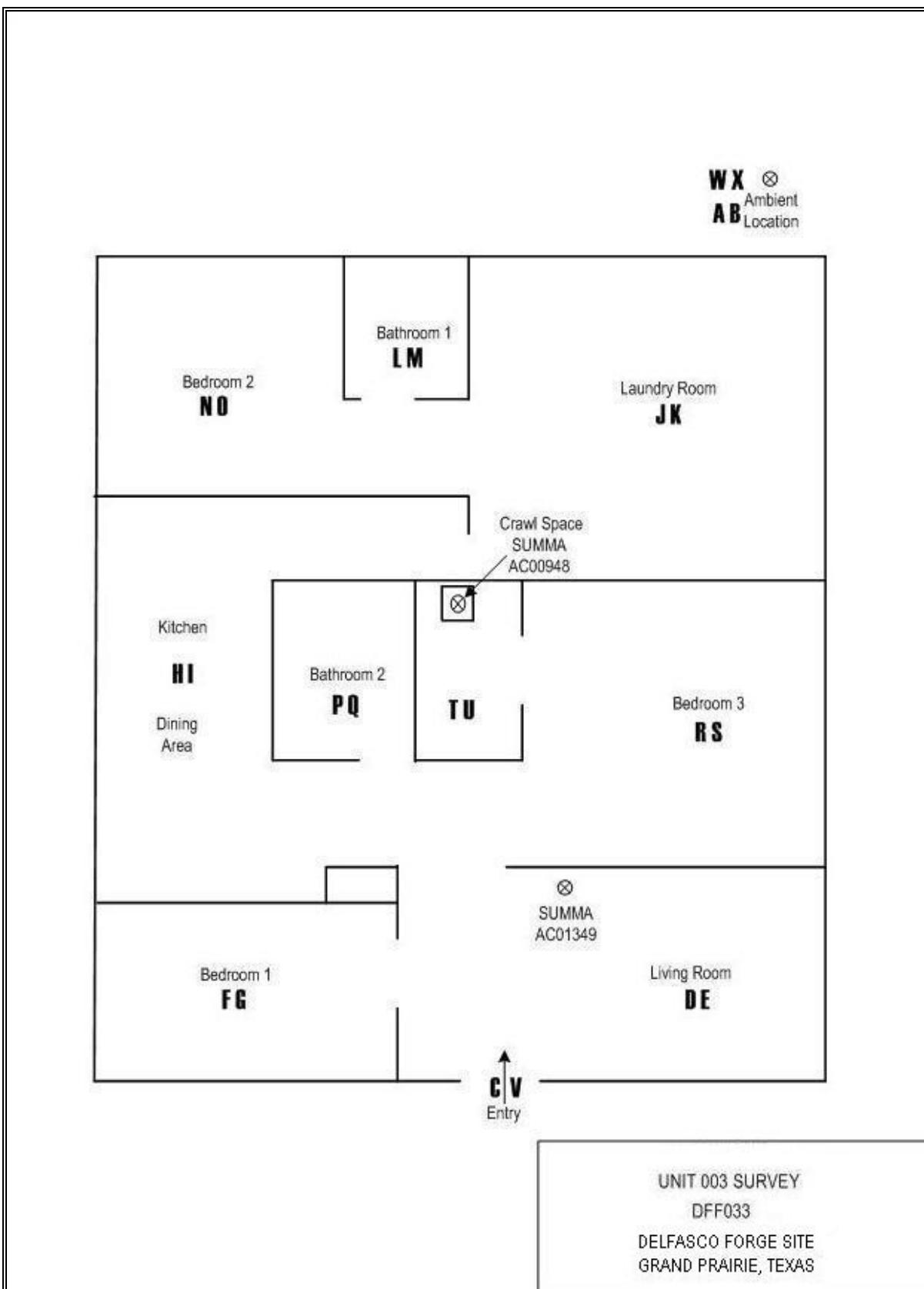


Figure 20a Unit 003 Survey Floor Plan, DFF033

Figure 20b

TAGA File Event Summary			
File: DFF033 Acquired on 22 May 2008 at 09:04:20			
Title: Unit 003 Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.1	149	Start of the pre-entry ambient
B	3.1	220	End of the pre-entry ambient
C	6.4	452	Entering the unit
D	6.6	470	Start of the living room
E	7.6	540	End of the living room
F	7.9	560	Start of bedroom one
G	8.9	632	End of bedroom one
H	9.4	669	Start of the kitchen/dining area
I	10.4	740	End of the kitchen/dining area
J	11.0	782	Start of the laundry room
K	12.0	853	End of the laundry room
L	12.4	878	Start of bathroom one
M	13.4	951	End of bathroom one
N	13.8	975	Start of bedroom two
O	14.8	1049	End of bedroom two
P	15.8	1117	Start of bathroom two
Q	16.8	1187	End of bathroom two
R	17.0	1207	Start of bedroom three
S	18.0	1277	End of bedroom three
T	18.3	1295	Start of the crawl space
U	19.3	1368	End of the crawl space
V	20.0	1419	Exiting the unit
W	21.7	1537	Start of the post-exit ambient
X	22.7	1606	End of the post-exit ambient
Y	23.8	1685	Start of the 30 mL/min spike
Z	24.8	1757	End of the 30 mL/min spike

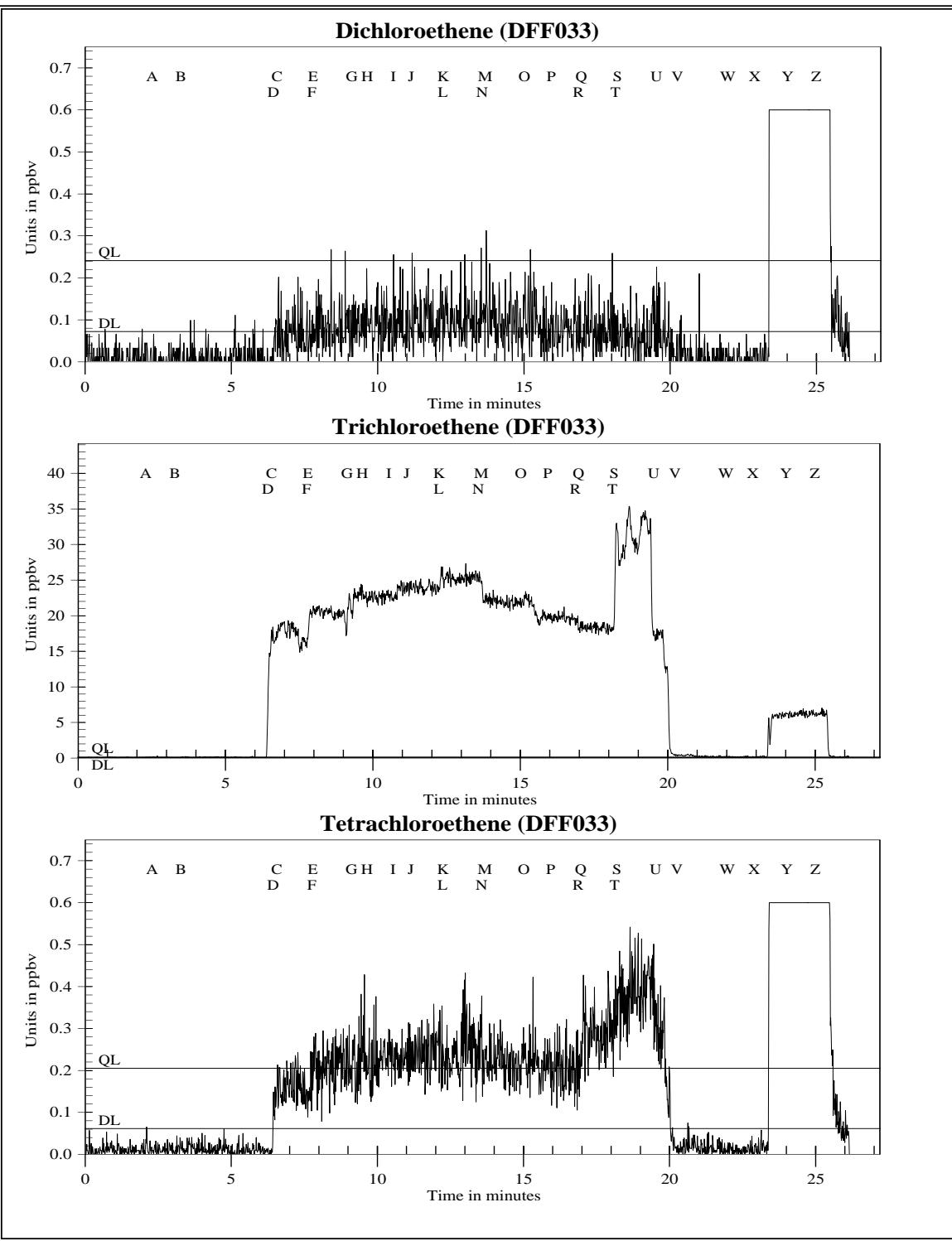


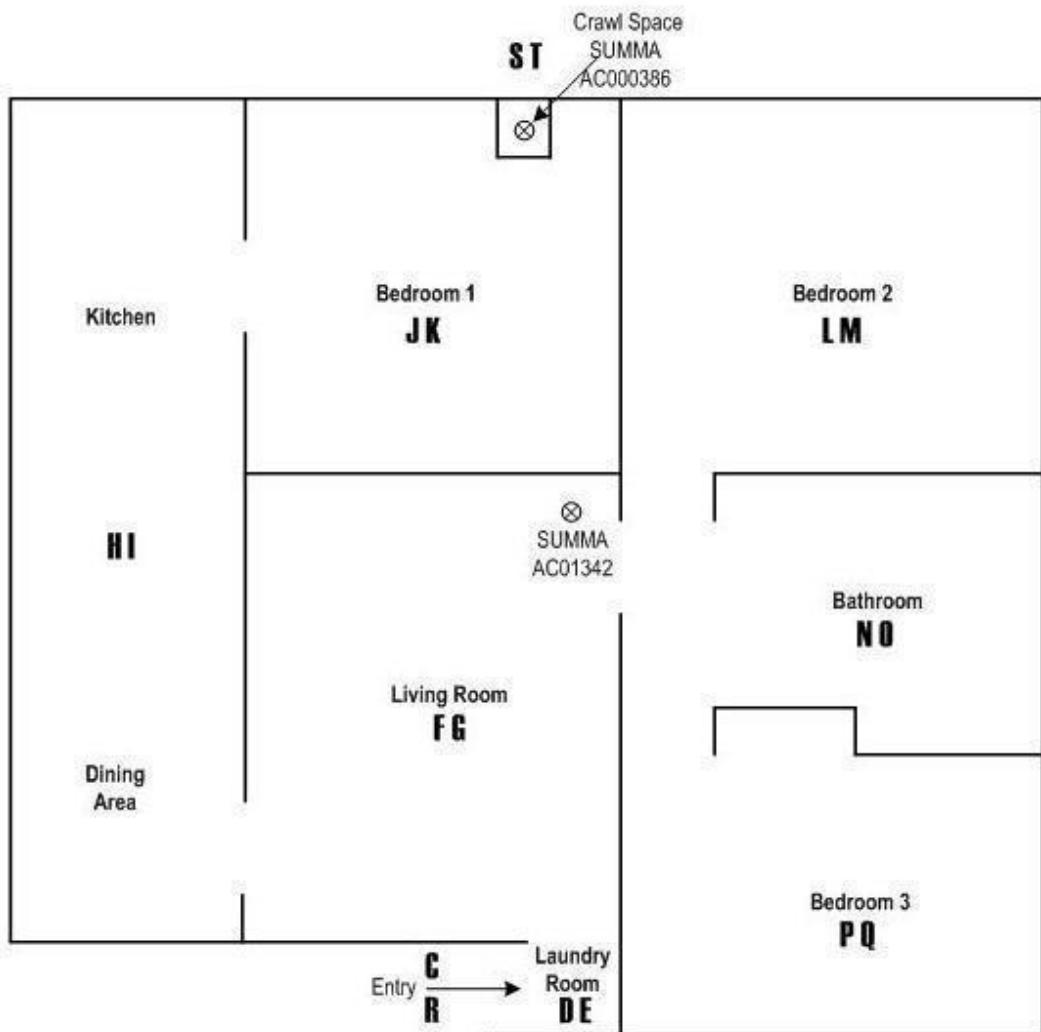
Figure 20c Unit 003 Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 20d

TAGA Target Compound Summary for Unit 003 Survey File: DFF033 Acquired on 22 May 2008 at 09:04:20				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.072	0.046	0.062
Quantitation Limits - QL:		0.24	0.15	0.21
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.072	0.11J	DL=0.062
D - E	Living room	DL=0.072	18.	0.16J
F - G	Bedroom one	0.082J	20.	0.21
H - I	Kitchen/dining area	0.094J	23.	0.23
J - K	Laundry room	0.097J	24.	0.24
L - M	Bathroom one	0.095J	25.	0.25
N - O	Bedroom two	0.096J	22.	0.22
P - Q	Bathroom two	0.075J	20.	0.21
R - S	Bedroom three	0.084J	18.	0.29
T - U	Crawl space	DL=0.072	31.	0.39
V - W	Post-exit ambient	DL=0.072	0.41	DL=0.062
Y - Z	30 mL/min spike	6.8	6.2	5.8

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit



UNIT 016 SURVEY
DFF034
DELFIASCO FORGE SITE
GRAND PRAIRIE, TEXAS

Figure 21a Unit 016 Survey Floor Plan, DFF034

Figure 21b

TAGA File Event Summary			
File: DFF034 Acquired on 22 May 2008 at 09:45:36			
Title: Unit 016 Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.1	151	Start of the pre-entry ambient
B	3.1	221	End of the pre-entry ambient
C	4.4	314	Entering the unit
D	4.7	331	Start of the laundry room
E	5.7	401	End of the laundry room
F	6.0	422	Start of the living room
G	7.0	494	End of the living room
H	7.2	512	Start of the dining area/kitchen
I	8.2	583	End of the dining area/kitchen
J	8.6	611	Start of bedroom one
K	9.6	682	End of bedroom one
L	11.0	780	Start of bedroom two
M	12.0	850	End of bedroom two
N	12.3	873	Start of the bathroom
O	13.3	945	End of the bathroom
P	13.6	963	Start of bedroom three
Q	14.6	1034	End of bedroom three
R	15.1	1070	Exiting the unit
S	21.5	1520	Start of the crawl space
T	22.7	1604	End of the crawl space
U	25.6	1813	Start of the post-exit ambient
V	26.6	1885	End of the post-exit ambient
W	27.7	1962	Start of the 30 mL/min spike
X	28.9	2044	End of the 30 mL/min spike

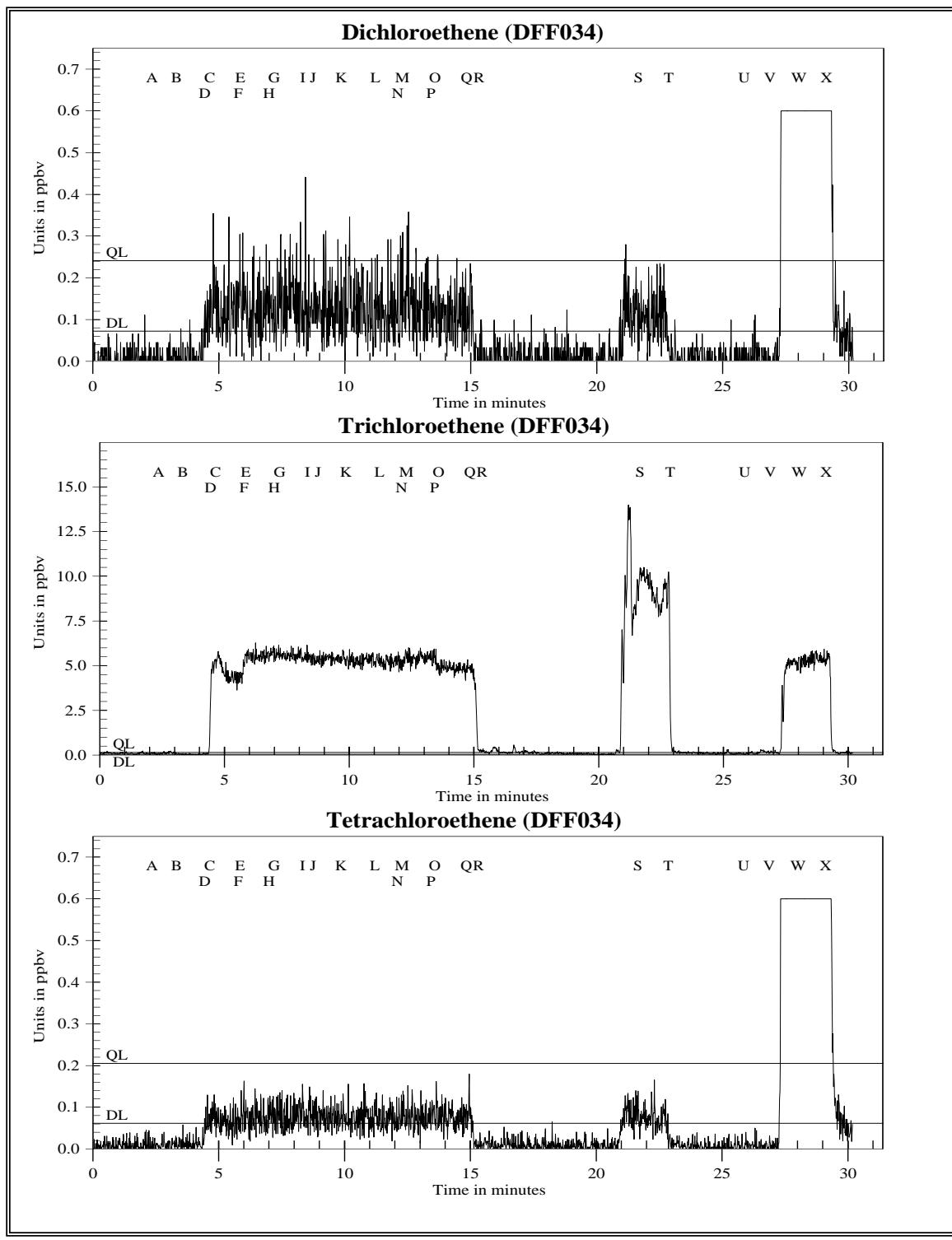


Figure 21c Unit 016 Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 21d

TAGA Target Compound Summary for Unit 016 Survey File: DFF034 Acquired on 22 May 2008 at 09:45:36				
		Dichloroethene	Trichloroethene	Tetrachloroethene
	Detection Limits - DL:	0.072	0.046	0.062
	Quantitation Limits - QL:	0.24	0.15	0.21
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.072	0.11J	DL=0.062
D - E	Laundry room	0.12J	4.6	0.068J
F - G	Living room	0.12J	5.6	0.075J
H - I	Dining Area/Kitchen	0.14J	5.6	0.078J
J - K	Bedroom one	0.12J	5.4	0.078J
L - M	Bedroom two	0.12J	5.2	0.073J
N - O	Bathroom	0.13J	5.4	0.077J
P - Q	Bedroom three	0.11J	4.9	0.076J
S - T	Crawl space	0.11J	9.3	0.076J
U - V	Post-exit ambient	DL=0.072	0.13J	DL=0.062
W - X	30 mL/min spike	6.1	5.3	5.3

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

Figure 22a

TAGA File Event Summary			
File: DFF035 Acquired on 22 May 2008 at 10:40:08			
Title: Unit 018 Tedlar® Bag Analysis			
Flag	Time	Sequence	Description
A	2.3	163	Start of the Tedlar® bag
B	3.3	235	End of the Tedlar® bag
C	4.7	334	Start of the 30 mL/min spike
D	6.1	432	End of the 30 mL/min spike

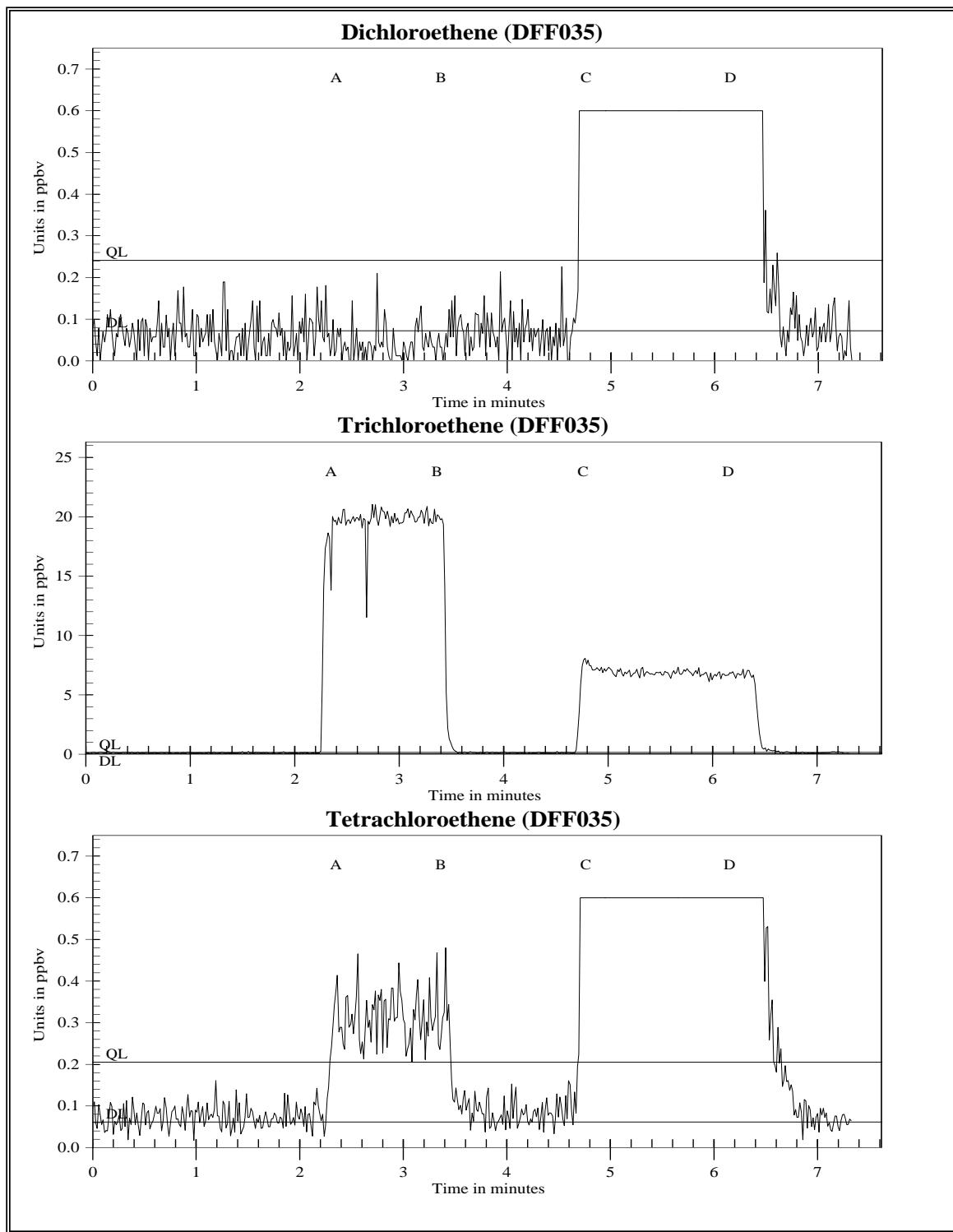


Figure 22b Unit 018 Tedlar[®] Bag Analysis for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 22c

TAGA Target Compound Summary for Unit 018 Tedlar® Bag Analysis File: DFF035 Acquired on 22 May 2008 at 10:40:08				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.072	0.046	0.062
Quantitation Limits - QL:		0.24	0.15	0.21
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Tedlar® bag 018-TB-052208	DL=0.072	20.	0.31
C - D	30 mL/min spike	6.0	6.8	7.2

Concentrations are given in parts per billion by volume

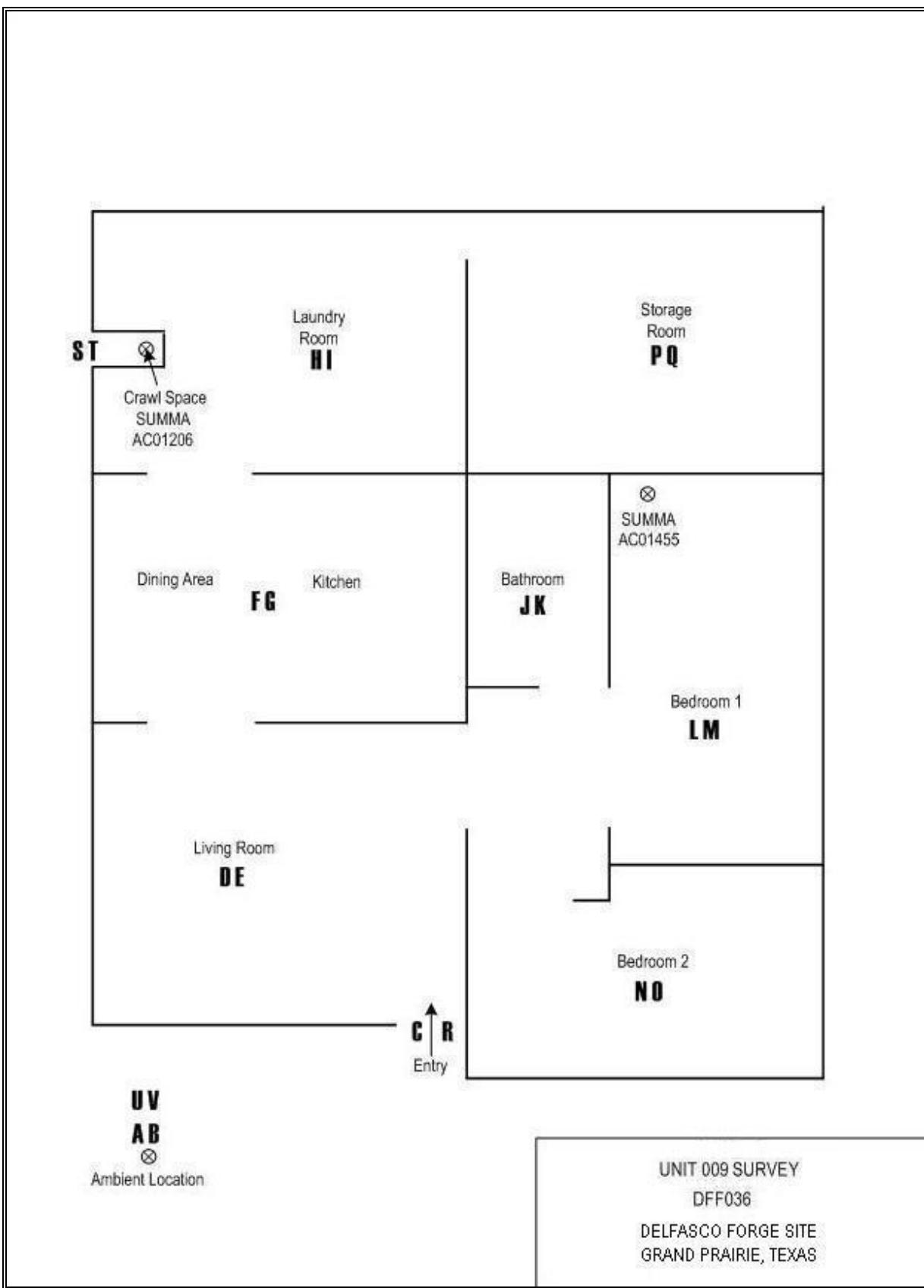


Figure 23a Unit 009 Survey Floor Plan, DFF036

Figure 23b

TAGA File Event Summary			
File: DFF036 Acquired on 22 May 2008 at 11:30:09			
Title: Unit 009 Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.6	183	Start of the pre-entry ambient
B	3.6	253	End of the pre-entry ambient
C	5.5	391	Entering the unit
D	5.8	413	Start of the living room
E	6.8	484	End of the living room
F	7.1	503	Start of the kitchen/dining area
G	8.1	575	End of the kitchen/dining area
H	8.3	589	Start of the laundry room
I	9.3	661	End of the laundry room
J	9.9	702	Start of the bathroom
K	10.9	773	End of the bathroom
L	11.2	792	Start of bedroom one
M	12.2	861	End of bedroom one
N	12.7	899	Start of bedroom two
O	13.7	968	End of bedroom two
P	14.4	1020	Start of the storage room
Q	15.4	1090	End of the storage room
R	16.1	1141	Exiting the unit
S	20.8	1475	Start of the crawl space
T	21.9	1550	End of the crawl space
U	24.2	1710	Start of the post-exit ambient
V	25.7	1819	End of the post-exit ambient
W	27.0	1913	Start of the 30 mL/min spike
X	28.1	1986	End of the 30 mL/min spike

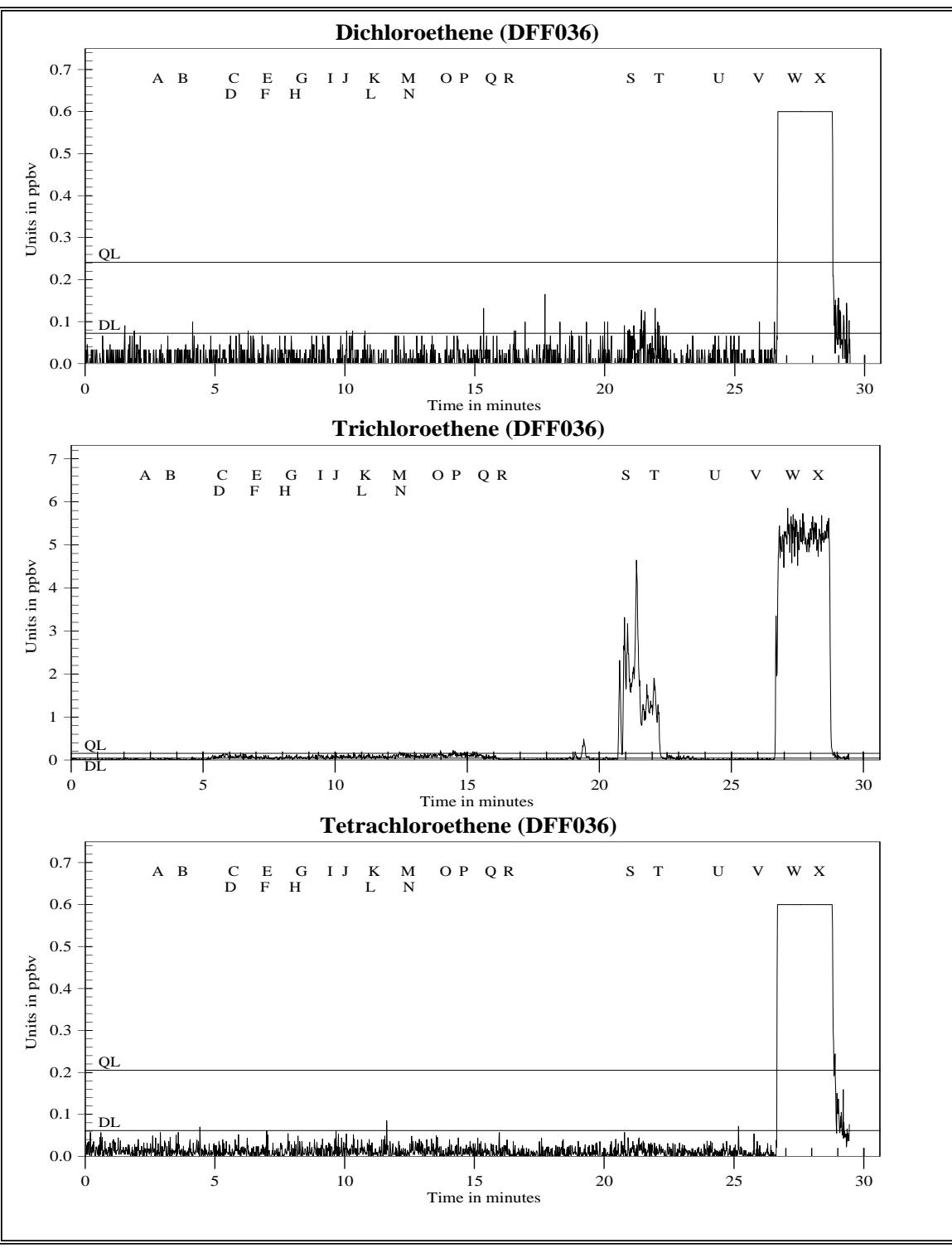


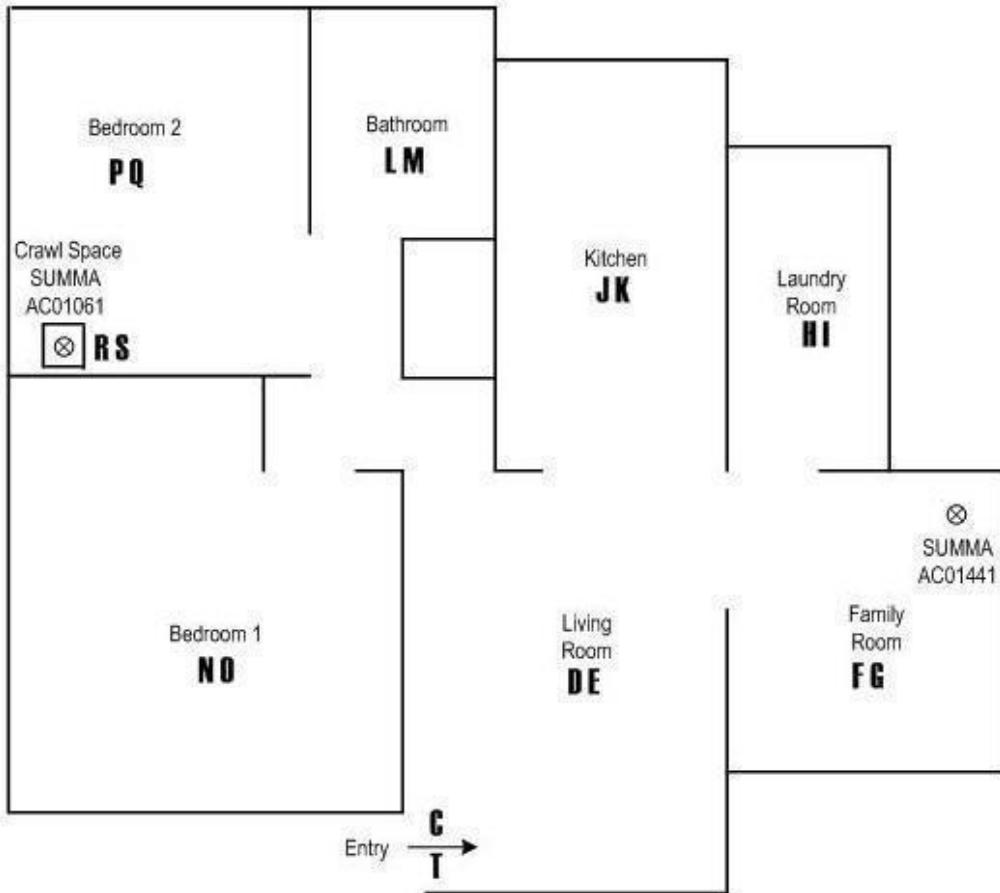
Figure 23c Unit 009 Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 23d

TAGA Target Compound Summary for Unit 009 Survey File: DFF036 Acquired on 22 May 2008 at 11:30:09				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.072	0.046	0.062
Quantitation Limits - QL:		0.24	0.15	0.21
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.072	DL=0.046	DL=0.062
D - E	Living room	DL=0.072	0.080J	DL=0.062
F - G	Kitchen/Dining area	DL=0.072	0.049J	DL=0.062
H - I	Laundry room	DL=0.072	0.059J	DL=0.062
J - K	Bathroom	DL=0.072	0.076J	DL=0.062
L - M	Bedroom one	DL=0.072	0.074J	DL=0.062
N - O	Bedroom two	DL=0.072	0.092J	DL=0.062
P - Q	Storage room	DL=0.072	0.12J	DL=0.062
S - T	Crawl space	DL=0.072	1.9	DL=0.062
U - V	Post-exit ambient	DL=0.072	DL=0.046	DL=0.062
W - X	30 mL/min spike	5.9	5.2	5.4

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit



AB \otimes
UV Ambient
 Location

UNIT 013 SURVEY

DFF037

DELFIASCO FORGE SITE
 GRAND PRAIRIE, TEXAS

Figure 24a Unit 013 Survey Floor Plan, DFF037

Figure 24b

TAGA File Event Summary			
File: DFF037 Acquired on 22 May 2008 at 12:13:32			
Title: Unit 013 Survey			
Flag	Offset Time	Offset Sequence	Description
A	2.4	174	Start of the pre-entry ambient
B	3.4	243	End of the pre-entry ambient
C	5.1	364	Entering the unit
D	5.6	395	Start of the living room
E	6.6	465	End of the living room
F	6.9	490	Start of the family room
G	7.9	560	End of the family room
H	8.3	588	Start of the laundry
I	9.3	658	End of the laundry
J	9.7	689	Start of the kitchen
K	10.7	760	End of the kitchen
L	11.3	797	Start of the bathroom
M	12.3	869	End of the bathroom
N	12.7	896	Start of bedroom one
O	13.7	968	End of bedroom one
P	14.0	991	Start of bedroom two
Q	15.0	1062	End of bedroom two
R	16.9	1197	Start of the crawl space
S	18.0	1273	End of the crawl space
T	19.2	1362	Exiting the unit
U	20.5	1451	Start of the post-exit ambient
V	21.6	1527	End of the post-exit ambient
W	22.6	1600	Start of the 30 mL/min spike
X	23.6	1672	End of the 30 mL/min spike

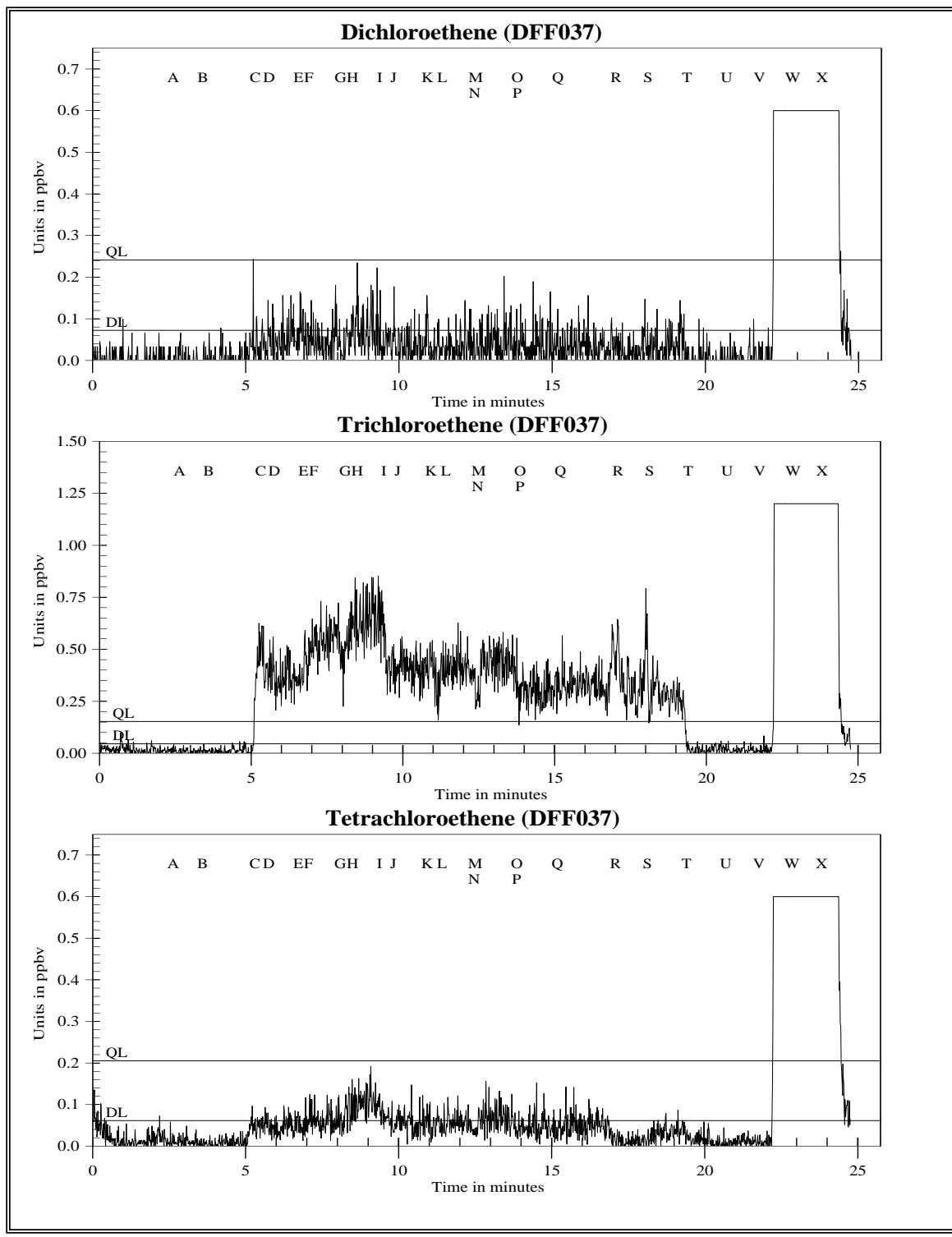


Figure 24c Unit 013 Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 24d

TAGA Target Compound Summary for Unit 013 Survey File: DFF037 Acquired on 22 May 2008 at 12:13:32				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.072	0.046	0.062
Quantitation Limits - QL:		0.24	0.15	0.21
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.072	DL=0.046	DL=0.062
D - E	Living room	DL=0.072	0.37	DL=0.062
F - G	Family room	DL=0.072	0.55	0.062J
H - I	Laundry	0.073J	0.64	0.10J
J - K	Kitchen	DL=0.072	0.41	DL=0.062
L - M	Bathroom	DL=0.072	0.41	DL=0.062
N - O	Bedroom one	DL=0.072	0.44	0.069J
P - Q	Bedroom two	DL=0.072	0.30	DL=0.062
R - S	Crawl space	DL=0.072	0.36	DL=0.062
U - V	Post-exit ambient	DL=0.072	DL=0.046	DL=0.062
W - X	30 mL/min spike	6.0	5.1	5.4

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

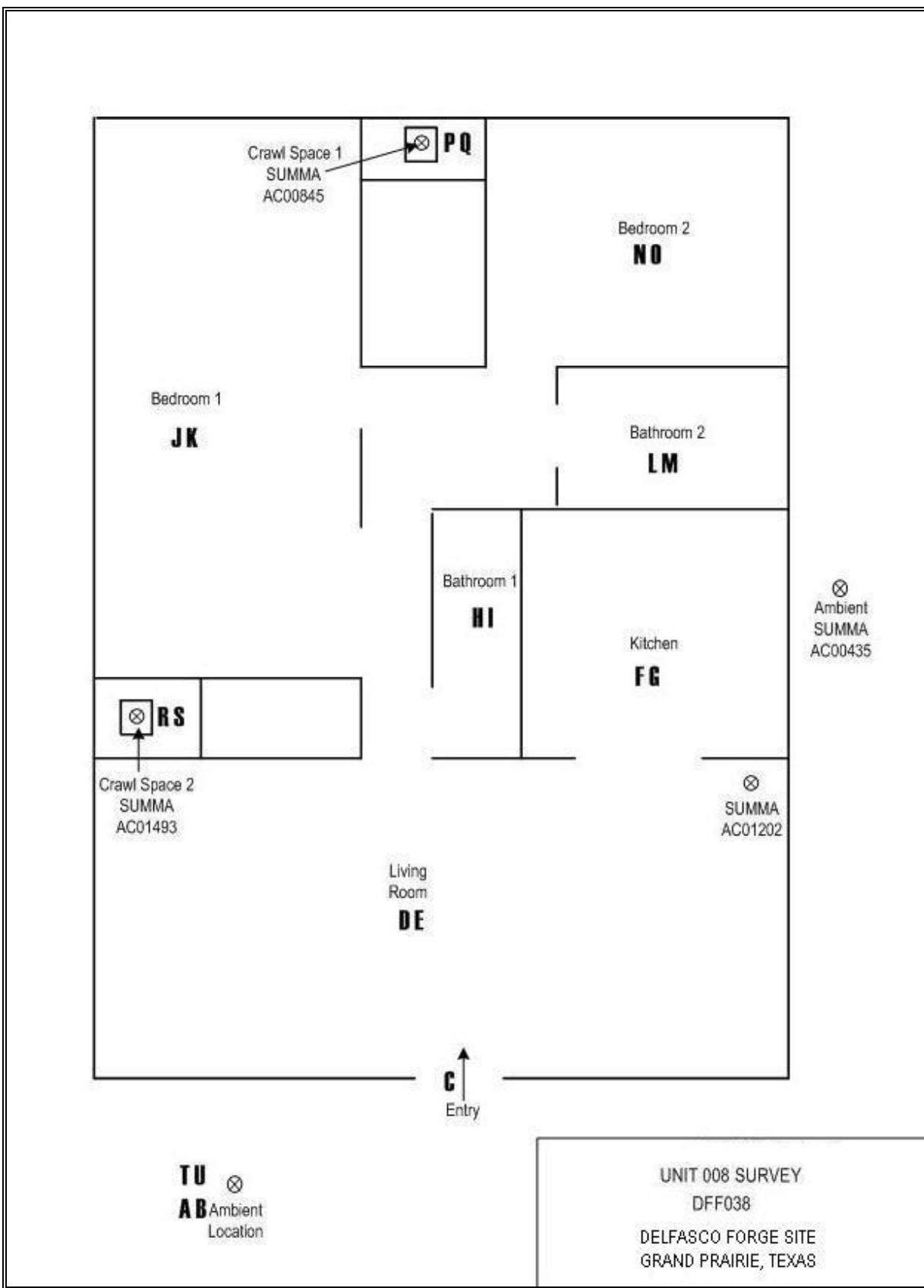


Figure 25a Unit 008 Survey Floor Plan, DFF038

Figure 25b

TAGA File Event Summary			
File: DFF038 Acquired on 22 May 2008 at 15:19:50			
Title: Unit 008 Survey			
Flag	Offset Time	Offset Sequence	Description
A	1.9	138	Start of the pre-entry ambient
B	2.9	208	End of the pre-entry ambient
C	5.0	358	Entering the unit
D	5.4	381	Start of the living room
E	6.4	454	End of the living room
F	6.8	480	Start of the kitchen
G	7.8	551	End of the kitchen
H	8.7	614	Start of bathroom one
I	9.7	684	End of bathroom one
J	9.9	703	Start of bedroom one
K	10.9	773	End of bedroom one
L	11.3	797	Start of bathroom two
M	12.3	869	End of bathroom two
N	12.6	889	Start of bedroom two
O	13.6	963	End of bedroom two
P	14.8	1047	Start of crawl space one
Q	15.8	1118	End of crawl space one
R	16.7	1181	Start of crawl space two
S	17.7	1251	End of crawl space two
T	19.0	1342	Start of the post-exit ambient
U	20.1	1421	End of the post-exit ambient
V	21.9	1552	Start of the 30 ml/min spike
W	22.9	1623	End of the 30 ml/min spike

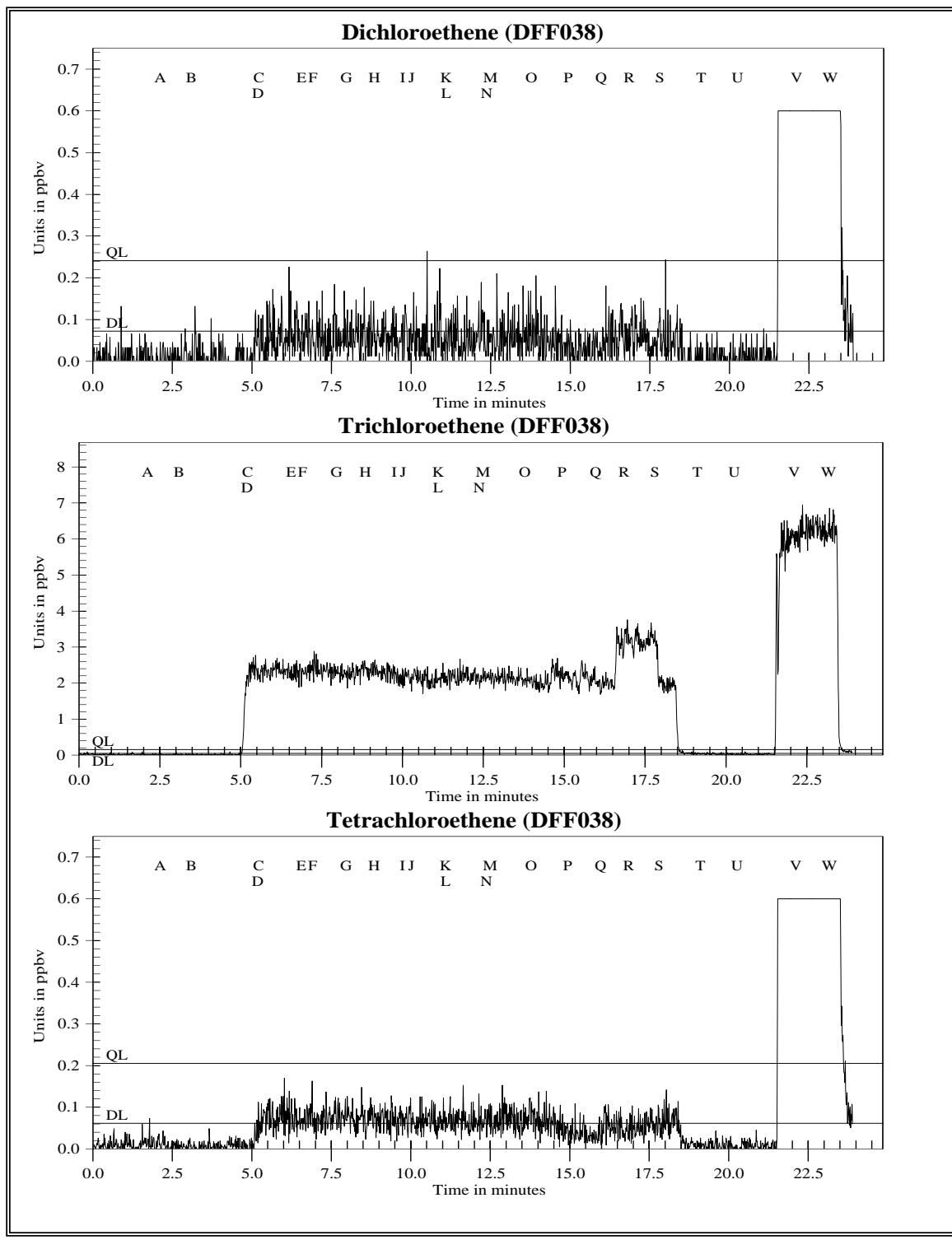


Figure 25c Unit 008 Survey for Dichloroethene, Trichloroethene, and Tetrachloroethene

Figure 25d

TAGA Target Compound Summary for Unit 008 Survey File: DFF038 Acquired on 22 May 2008 at 15:19:50				
		Dichloroethene	Trichloroethene	Tetrachloroethene
Detection Limits - DL:		0.072	0.046	0.062
Quantitation Limits - QL:		0.24	0.15	0.21
Flags	Description	Dichloroethene	Trichloroethene	Tetrachloroethene
A - B	Pre-entry ambient	DL=0.072	DL=0.046	DL=0.062
D - E	Living room	DL=0.072	2.3	0.078J
F - G	Kitchen	DL=0.072	2.4	0.075J
H - I	Bathroom one	DL=0.072	2.3	0.072J
J - K	Bedroom one	DL=0.072	2.1	0.067J
L - M	Bathroom two	DL=0.072	2.2	0.066J
N - O	Bedroom two	DL=0.072	2.1	0.069J
P - Q	Crawl space one	DL=0.072	2.2	DL=0.062
R - S	Crawl space two	DL=0.072	3.2	DL=0.062
T - U	Post-exit ambient	DL=0.072	DL=0.046	DL=0.062
V - W	30 mL/min spike	6.8	6.2	6.3

Concentrations are given in parts per billion by volume

J = Concentration detected below the quantitation limit

APPENDIX A
Standard Gas Cylinder Certification
Delfasco Forge Site
Final Analytical TAGA Report
July 2008



3434 Route 22 West, Branchburg, New Jersey 08876 USA

ISO 9001:2000

SHIPPED FROM: 80 INDUSTRIAL DRIVE ALPHA, NJ. 08865

SHIPPED TO:
Lockheed Martin / REAC
GSA Raritan Depot, Bldg. 209
2890 Woodbridge Ave.
Edison, NJ 08837

CERTIFICATE
OF
ANALYSIS

SGI ORDER #:	117006	CYLINDER #:	CC-256091
ITEM#:	1	CYLINDER PRES:	1365 psig
CERTIFICATION DATE:	10/01/2007	CYLINDER VALVE:	CGA 350
P.O.#:	Verbal-Chuck	PRODUCT EXPIRATION DATE:	10/01/2008
BLEND TYPE:	CERTIFIED		

ANALYTICAL ACCURACY: +/- 2%

COMPONENT	REQUESTED GAS CONC	ANALYSIS
Vinyl Chloride	20.0 ppm	20.4 ppm
1,1-Dichloroethene	20.0 ppm	20.9 ppm
Benzene	20.0 ppm	20.5 ppm
Trichloroethylene	20.0 ppm	20.3 ppm
Toluene	20.0 ppm	20.3 ppm
Tetrachloroethylene	20.0 ppm	20.3 ppm
p-Xylene	10.0 ppm	10.1 ppm
m-Xylene	10.0 ppm	10.1 ppm
o-Xylene	10.0 ppm	10.1 ppm
Nitrogen	Balance	Balance

ANALYST: Lou Lorenzetti
Lou Lorenzetti

DATE: 10/01/2007

Tel: +1 908-252-9300 Fax: +1 908-252-0811
www.spectragases.com

APPENDIX B
Compiled Meteorological Data
Delfasco Forge Site
Final Analytical TAGA Report
July 2008

Local Climatological Data-Hourly Observations Table

Dallas Executive Airport, Dallas, TX

Elevation: 650 ft. above sea level

Latitude: 32.681° N

Longitude: -96.868°

19 through 23 May 2008

Date	Time	Temp (F)	Dew Point Temp (F)	Relative Humd (%)	Wind Speed (mph)	Wind Dir (deg)	Station Press. (in Hg)	Total Precip. (in.)
5/19/2008	53	68	48	49	5	190	29.11	
5/19/2008	153	68	48	49	5	180	29.09	
5/19/2008	253	67	48	51	5	190	29.09	
5/19/2008	353	67	48	51	5	190	29.09	
5/19/2008	453	68	49	51	6	180	29.08	
5/19/2008	553	67	51	57	5	190	29.09	
5/19/2008	653	71	51	49	6	190	29.09	
5/19/2008	753	76	53	45	6	180	29.09	
5/19/2008	853	82	54	38	8	220	29.09	
5/19/2008	953	85	56	37	6	220	29.08	
5/19/2008	1053	88	54	31	9	210	29.06	
5/19/2008	1153	90	55	31	14	250	29.04	
5/19/2008	1253	92	54	28	9	220	29.02	
5/19/2008	1353	92	54	28	8	200	29.01	
5/19/2008	1453	92	54	28	10	180	28.98	
5/19/2008	1553	92	54	28	10	180	28.95	
5/19/2008	1653	91	54	29	9	190	28.95	
5/19/2008	1753	90	54	29	10	190	28.95	
5/19/2008	1853	87	54	32	9	180	28.93	
5/19/2008	1953	84	56	38	8	170	28.93	
5/19/2008	2053	82	56	41	9	180	28.95	
5/19/2008	2153	80	55	42	8	180	28.95	
5/19/2008	2253	78	55	45	8	180	28.96	
5/19/2008	2353	77	54	45	7	180	28.96	
5/20/2008	53	78	52	40	7	180	28.96	

Wind direction is the direction from which the wind is blowing.

Local Climatological Data-Hourly Observations Table

Dallas Executive Airport, Dallas, TX

Elevation: 650 ft. above sea level

Latitude: 32.681° N

Longitude: -96.868°

19 through 23 May 2008

Date	Time	Temp (F)	Dew Point Temp (F)	Relative Humd (%)	Wind Speed (mph)	Wind Dir (deg)	Station Press. (in Hg)	Total Precip. (in.)
5/20/2008	153	78	52	40	6	190	28.96	
5/20/2008	253	74	53	48	5	180	28.98	
5/20/2008	353	67	55	66	3	160	29.00	
5/20/2008	453	67	56	68	0	0	29.02	
5/20/2008	517	64	55	73	3	180	29.03	
5/20/2008	525	64	55	73	6	170	29.02	
5/20/2008	544	64	55	73	3	160	29.04	
5/20/2008	551	64	55	73	5	160	29.04	
5/20/2008	553	65	56	73	5	160	29.04	
5/20/2008	620	66	57	73	5	170	29.05	
5/20/2008	645	70	57	64	6	180	29.06	
5/20/2008	653	70	57	64	5	180	29.06	
5/20/2008	753	75	58	56	8	200	29.06	
5/20/2008	832	82	59	46	0	0	29.08	
5/20/2008	843	82	57	43	0	0	29.08	
5/20/2008	853	84	56	38	7	VR	29.08	
5/20/2008	903	84	54	36	6	VR	29.07	
5/20/2008	925	82	55	40	6	220	29.06	
5/20/2008	953	84	54	36	9	290	29.08	
5/20/2008	1024	84	57	40	3	340	29.08	
5/20/2008	1046	88	57	35	3	10	29.08	
5/20/2008	1053	87	57	36	5	VR	29.09	
5/20/2008	1153	86	55	35	6	60	29.09	
5/20/2008	1253	88	57	35	8	50	29.08	
5/20/2008	1353	88	58	36	9	70	29.07	
5/20/2008	1453	89	61	39	9	60	29.06	
5/20/2008	1553	89	62	41	10	30	29.05	
5/20/2008	1653	89	60	38	11	40	29.04	
5/20/2008	1753	88	63	43	9	60	29.03	
5/20/2008	1853	86	59	40	8	50	29.03	
5/20/2008	1953	82	58	44	7	60	29.04	
5/20/2008	2053	80	55	42	7	50	29.05	
5/20/2008	2153	78	54	44	9	60	29.06	

Wind direction is the direction from which the wind is blowing.

Local Climatological Data-Hourly Observations Table

Dallas Executive Airport, Dallas, TX

Elevation: 650 ft. above sea level

Latitude: 32.681° N

Longitude: -96.868°

19 through 23 May 2008

Date	Time	Temp (F)	Dew Point Temp (F)	Relative Humd (%)	Wind Speed (mph)	Wind Dir (deg)	Station Press. (in Hg)	Total Precip. (in.)
5/20/2008	2253	76	53	45	7	60	29.05	
5/20/2008	2353	74	54	50	5	70	29.05	
5/21/2008	53	73	55	53	6	70	29.03	
5/21/2008	153	72	53	51	8	60	29.03	
5/21/2008	253	71	51	49	7	80	29.02	
5/21/2008	353	70	51	51	7	90	29.02	
5/21/2008	453	68	51	55	6	100	29.03	
5/21/2008	553	66	53	63	7	110	29.03	
5/21/2008	653	70	54	57	7	110	29.03	
5/21/2008	753	73	55	53	8	100	29.05	
5/21/2008	853	76	55	48	10	100	29.04	
5/21/2008	953	80	60	51	14	120	29.01	
5/21/2008	1053	81	66	60	11	130	28.99	
5/21/2008	1151	84	70	63	11	160	28.96	
5/21/2008	1153	83	69	63	11	130	28.96	
5/21/2008	1251	84	70	63	15	160	28.95	
5/21/2008	1253	85	69	59	14	160	28.95	
5/21/2008	1353	85	68	57	16	150	28.92	
5/21/2008	1453	86	68	55	18	140	28.90	
5/21/2008	1553	86	68	55	16	150	28.86	
5/21/2008	1653	87	67	52	16	170	28.83	
5/21/2008	1753	86	66	51	15	160	28.82	
5/21/2008	1853	84	68	59	13	160	28.81	
5/21/2008	1953	83	67	59	16	160	28.82	
5/21/2008	2053	82	68	63	15	150	28.82	
5/21/2008	2153	80	69	69	14	150	28.83	
5/21/2008	2253	80	70	72	18	150	28.83	
5/21/2008	2353	78	69	74	17	160	28.83	
5/22/2008	53	77	68	74	13	180	28.83	
5/22/2008	134	75	68	79	11	170	28.83	
5/22/2008	151	75	68	79	11	160	28.83	
5/22/2008	153	76	68	76	13	170	28.83	
5/22/2008	246	75	68	79	10	170	28.82	
5/22/2008	253	75	68	79	14	160	28.82	
5/22/2008	353	75	68	79	17	160	28.81	
5/22/2008	453	74	68	82	16	160	28.80	
5/22/2008	539	75	70	85	13	160	28.82	
5/22/2008	548	75	70	85	14	160	28.82	
5/22/2008	553	75	69	82	17	160	28.82	
5/22/2008	618	75	70	85	13	170	28.84	

Wind direction is the direction from which the wind is blowing.

Local Climatological Data-Hourly Observations Table
Dallas Executive Airport, Dallas, TX
Elevation: 650 ft. above sea level
Latitude: 32.681° N
Longitude: -96.868°
19 through 23 May 2008

Date	Time	Temp (F)	Dew Point Temp (F)	Relative Humd (%)	Wind Speed (mph)	Wind Dir (deg)	Station Press. (in Hg)	Total Precip. (in.)
5/22/2008	653	75	69	82	11	160	28.84	T
5/22/2008	718	75	70	85	16	150	28.84	
5/22/2008	753	76	69	79	15	160	28.84	T
5/22/2008	853	79	69	72	16	170	28.83	
5/22/2008	901	79	70	74	16	160	28.83	
5/22/2008	924	79	70	74	14	160	28.83	
5/22/2008	934	79	70	74	14	160	28.82	
5/22/2008	953	82	70	67	16	160	28.82	
5/22/2008	1053	82	69	65	20	160	28.82	
5/22/2008	1153	85	69	59	17	170	28.82	
5/22/2008	1253	87	69	55	23	160	28.79	
5/22/2008	1353	88	70	55	17	150	28.79	
5/22/2008	1453	88	70	55	21	160	28.78	
5/22/2008	1553	89	69	52	16	160	28.77	
5/22/2008	1653	88	69	53	16	160	28.74	
5/22/2008	1753	87	70	57	16	160	28.74	
5/22/2008	1853	85	69	59	18	150	28.76	
5/22/2008	1953	83	70	65	10	150	28.79	
5/22/2008	2053	82	71	69	11	140	28.82	
5/22/2008	2153	81	71	72	18	140	28.85	
5/22/2008	2253	80	71	74	17	130	28.86	
5/22/2008	2353	79	71	77	17	140	28.89	
5/23/2008	49	79	72	79	17	130	28.90	
5/23/2008	53	79	71	77	16	130	28.90	
5/23/2008	146	79	70	74	18	130	28.90	
5/23/2008	151	79	70	74	18	140	28.90	
5/23/2008	153	78	70	77	15	140	28.90	
5/23/2008	220	79	70	74	15	130	28.90	
5/23/2008	253	78	71	79	14	130	28.90	

Wind direction is the direction from which the wind is blowing.

Local Climatological Data-Hourly Observations Table
Dallas Executive Airport, Dallas, TX
Elevation: 650 ft. above sea level
Latitude: 32.681° N
Longitude: -96.868°
19 through 23 May 2008

Date	Time	Temp (F)	Dew Point Temp (F)	Relative Humd (%)	Wind Speed (mph)	Wind Dir (deg)	Station Press. (in Hg)	Total Precip. (in.)
5/23/2008	310	77	72	85	15	130	28.90	
5/23/2008	339	77	72	85	14	130	28.90	
5/23/2008	353	77	71	82	13	130	28.90	
5/23/2008	453	77	71	82	17	140	28.92	
5/23/2008	553	77	71	82	11	140	28.92	
5/23/2008	606	77	72	85	17	140	28.93	
5/23/2008	653	78	71	79	13	150	28.95	
5/23/2008	713	79	72	79	16	150	28.95	
5/23/2008	753	79	71	77	14	160	28.96	
5/23/2008	853	80	71	74	10	160	28.97	
5/23/2008	925	82	72	72	10	160	28.98	
5/23/2008	953	84	70	63	14	180	28.98	
5/23/2008	1053	86	70	59	15	160	28.97	
5/23/2008	1153	87	70	57	21	150	28.96	
5/23/2008	1253	90	70	52	17	150	28.95	
5/23/2008	1353	91	71	52	16	140	28.95	
5/23/2008	1453	91	71	52	20	150	28.95	
5/23/2008	1553	90	71	54	21	140	28.95	
5/23/2008	1653	89	71	55	13	140	28.95	
5/23/2008	1753	89	72	57	14	140	28.95	
5/23/2008	1853	87	73	63	16	130	28.95	
5/23/2008	1953	85	73	67	13	130	28.96	
5/23/2008	2053	84	72	67	16	130	28.98	
5/23/2008	2153	82	72	72	15	140	29.00	
5/23/2008	2253	81	71	72	15	150	29.00	
5/23/2008	2353	80	71	74	15	150	28.99	

Wind direction is the direction from which the wind is blowing.

APPENDIX B
Analytical Report
Delfasco Forge Site
Grand Prairie, Texas
August 2008

0324-DTR-080508

ANALYTICAL REPORT

Prepared by
LOCKHEED MARTIN, Inc.

Vapor Intrusion Pathway Assessment - Delfasco Forge Site
Grand Prairie, TX

July 2008

EPA Work Assignment No. 0-324
LOCKHEED MARTIN Work Order EAC0324
EPA Contract No. EP-C-04-032

Submitted to
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The appendices will be furnished on request

Introduction

REAC, in response to WA# 0-324, provided analytical support for environmental samples collected from the Vapor Intrusion Pathway Assessment - Delfasco Forge Site located in Grand Prairie, TX, as described in the following table. The support also included QA/QC, data review and preparation of an analytical report containing analytical and QA/QC results.

COC #	Number of Samples	Sampling Date	Date Received	Matrix	Analysis/ Method	Laboratory	Data Package
0-324-052008-001	4	05/21/08	05/23/08	Soil Gas	VOC/TO-15 SIM	CAS ¹	T 204
0-324-052208-002	4						
0-324-052008-003	4						
0-324-052008-004	2						
	2	05/22/08					
0-324-052208-005	1	05/22/08		Soil Gas			
	1			Trip Check			
	1			Field Blank			
40061	4	05/23/08		Air			T 207
40062	4						
40063	2		05/27/08				
	1			Trip Blank			
40064	4			Air			

¹ CAS, Columbia Analytical Services, is NELAC certified for VOC analysis.

Case Narrative

The laboratory reported the data to two significant figures. Any other representation of the data is the responsibility of the user. All data validation flags have been inserted into the results tables. The laboratory did not report results less than the RL. At the request of the Work Assignment Manager, six chlorinated compounds were analyzed for and validated.

VOC in Air Package T 204

The data package was reviewed and found to be acceptable.

VOC in Air Packages T 207

The data package was reviewed and found to be acceptable.

Summary of Abbreviations

BFB	Bromofluorobenzene
C	Centigrade
CLP	Contract Laboratory Program
COC	Chain of Custody
conc	concentration
cont	continued
CRDL	Contract Required Detection Limit
CRQL	Contract Required Quantitation Limit
D	(Surrogate Table) value is from a diluted sample and was not calculated
Dioxin	Polychlorinated dibenzo-p-dioxins (PCDD) and Polychlorinated dibenzofurans (PCDF)
DFTPP	Decafluorotriphenylphosphine
EMPC	Estimated maximum possible concentration
GC/MS	Gas Chromatography/ Mass Spectrometry
IS	Internal Standard
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MDA	Minimum Detectable Activity
MS (BS)	Matrix Spike (Blank Spike)
MSD (BSD)	Matrix Spike Duplicate (Blank Spike Duplicate)
MW	Molecular Weight
NA	Not Applicable or Not Available
NAD	Normalized Absolute Difference
NC	Not Calculated
NR	Not Requested/Not Reported
NS	Not Spiked
% D	Percent Difference
% REC	Percent Recovery
SOP	Standard Operating Procedure
ppbv	parts per billion by volume
ppm	parts per million
pptv	parts per trillion by volume
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
QL	Quantitation Limit
REAC	Response Engineering and Analytical Contract
RL	Reporting Limit
RPD	Relative Percent Difference
RSD	Relative Standard Deviation
SIM	Selected Ion Monitoring
Sur	Surrogate
TIC	Tentatively Identified Compound
TCLP	Toxicity Characteristic Leaching Procedure
VOC	Volatile Organic Compound
*	Value exceeds the acceptable QC limits.

m^3	cubic meter	g	gram	kg	kilogram	L	liter
μg	microgram	μL	microliter	mg	milligram	mL	milliliter
ng	nanogram	pg	picogram	pCi	picocurie	s	sigma

Data Validation Flags

J	Value is estimated	R	Value is unusable
J+	Value is estimated high (metals only)	U	Not detected
J-	Value is estimated low (metals only)	UJ	Not detected and RL is estimated

Rev. 02/05/08

Table 1.1a Results of the Analysis for VOC (ppbv) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

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Sample Number Sample Location	6/2/2008 Method Blank		006-CS-052008 Unit 006		005-CS-052008 Unit 005		004-CS-052008 Unit 004		003-CS-052008 Unit 003	
	Analyte	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv
Vinyl Chloride	U	0.0098	U	0.014	U	0.014	U	0.014	U	0.015
1,1-Dichloroethene	U	0.0063	U	0.0090	U	0.0093	U	0.0091	U	0.0097
trans-1,2-Dichloroethene	U	0.0063	U	0.0090	U	0.0093	U	0.0091	U	0.0097
cis-1,2-Dichloroethene	U	0.0063	U	0.0090	U	0.0093	U	0.0091	0.018	0.0097
Trichloroethene	U	0.0047	0.69	0.0066	0.014	0.0069	0.032	0.0067	25	0.071
Tetrachloroethene	U	0.0037	0.20	0.0052	0.030	0.0055	0.027	0.0053	0.32	0.0056

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

Sample Number Sample Location	015-CS-052008 Unit 015		6/3/2008 Method Blank		010-CS-052008 Unit 010		012-CS-052008 Unit 012		014-CS-052008 Unit 014	
	Analyte	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv
Vinyl Chloride	U	0.014	U	0.0098	U	0.015	U	0.015	U	0.014
1,1-Dichloroethene	0.011	0.0090	U	0.0063	U	0.0097	U	0.010	U	0.0092
trans-1,2-Dichloroethene	U	0.0090	U	0.0063	U	0.0097	U	0.010	U	0.0092
cis-1,2-Dichloroethene	U	0.0090	U	0.0063	U	0.0097	U	0.010	U	0.0092
Trichloroethene	0.048	0.0067	U	0.0047	0.015	0.0071	5.5	0.0074	0.044	0.0068
Tetrachloroethene	18	0.053	U	0.0037	0.049	0.0056	0.46	0.0058	0.028	0.0054

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

Sample Number Sample Location	6/6/2008 Method Blank		013-CS-052008 Unit 013		007-CS-052008 Unit 007		008-CS-052008 Unit 008		009-CS-052008 Unit 009	
	Analyte	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv
Vinyl Chloride	U	0.039	U	0.064	U	0.047	U	0.058	U	0.058
1,1-Dichloroethene	U	0.025	U	0.041	U	0.031	U	0.037	U	0.037
trans-1,2-Dichloroethene	U	0.025	U	0.041	U	0.031	U	0.037	U	0.037
cis-1,2-Dichloroethene	U	0.025	0.10	0.041	U	0.031	0.063	0.037	U	0.037
Trichloroethene	U	0.019	1.7	0.031	0.24	0.023	4.4	0.028	3.9	0.028
Tetrachloroethene	U	0.015	0.048	0.024	0.030	0.018	0.085	0.022	0.038	0.022

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

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Sample Number	002-CS-052008		011-CS-052008		016-CS-052108		017-CS-052108		000-TB-052208	
Sample Location	Unit 002		Unit 011		Unit 016		Unit 017		Trip Check	
Analyte	Result ppbv	RL ppbv								
Vinyl Chloride	U	0.051	U	0.062	U	0.059	U	0.062	U	0.039
1,1-Dichloroethene	U	0.033	U	0.040	U	0.038	U	0.040	U	0.025
trans-1,2-Dichloroethene	U	0.033	U	0.040	U	0.038	U	0.040	U	0.025
cis-1,2-Dichloroethene	U	0.033	U	0.040	0.11	0.038	U	0.040	U	0.025
Trichloroethene	U	0.024	0.31	0.030	13	0.028	U	0.030	U	0.019
Tetrachloroethene	0.23	0.019	0.030	0.023	0.11	0.022	U	0.023	U	0.015

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

Sample Number	000-FB-052208		6/9/2008		001-SS-052108	
Sample Location	Field Blank		Method Blank		Unit 001	
Analyte	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv
Vinyl Chloride	U	0.039	U	0.0098	U	0.021
1,1-Dichloroethene	U	0.025	U	0.0063	U	0.014
trans-1,2-Dichloroethene	U	0.025	U	0.0063	U	0.014
cis-1,2-Dichloroethene	U	0.025	U	0.0063	0.044	0.014
Trichloroethene	U	0.019	U	0.0047	0.015	0.010
Tetrachloroethene	U	0.015	U	0.0037	0.042	0.0080

Table 1.1a Results of the Analysis for VOC (ppbv) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

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Sample Number Sample Location	5/30/2008		016-AMB-052208 UNIT 016		009-IND-052208 UNIT 009		013-IND-052208 UNIT 013		008-AMB-052208 UNIT 008	
	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv
Vinyl Chloride	U	0.0098	U	0.015	U	0.016	U	0.016	U	0.018
1,1-Dichloroethene	U	0.0063	U	0.0098	U	0.010	U	0.010	U	0.012
trans-1,2-Dichloroethene	U	0.0063	U	0.0098	U	0.010	U	0.010	U	0.012
cis-1,2-Dichloroethene	U	0.0063	U	0.0098	U	0.010	0.023	0.010	U	0.012
Trichloroethene	U	0.0047	0.16	0.0072	0.11	0.0075	0.45	0.0075	0.039	0.0087
Tetrachloroethene	U	0.0037	0.019	0.0057	0.0079	0.0059	0.022	0.0060	0.014	0.0069

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

Sample Number Sample Location	008-IND-052208 UNIT 008		003-IND-052208 UNIT 003		016-IND-052208 UNIT 016		6/2/2008 Method Blank		016-CS-052208 UNIT 016	
	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv
Vinyl Chloride	U	0.016	U	0.016	U	0.016	U	0.0098	U	0.037
1,1-Dichloroethene	U	0.010	U	0.010	0.015	0.010	U	0.0063	0.038	0.024
trans-1,2-Dichloroethene	U	0.010	U	0.010	U	0.010	U	0.0063	U	0.0063
cis-1,2-Dichloroethene	0.020	0.010	0.028	0.010	0.035	0.010	U	0.0063	0.12	0.024
Trichloroethene	1.4	0.0075	12	0.075	4.0	0.0075	U	0.0047	14	0.018
Tetrachloroethene	0.050	0.0059	0.14	0.0060	0.044	0.0059	U	0.0037	0.11	0.014

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

Sample Number Sample Location	009-CS-052208 UNIT 009		008-CS2-052208 UNIT 008		013-CS-052208 UNIT 013		008-CS1-052208 UNIT 008		000-TB-052308 TRIP BLANK	
	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv	Result ppbv	RL ppbv
Vinyl Chloride	U	0.016	U	0.015	U	0.016	U	0.016	U	0.0098
1,1-Dichloroethene	0.029	0.011	U	0.0097	U	0.010	U	0.010	U	0.0063
trans-1,2-Dichloroethene	U	0.011	U	0.0097	U	0.010	U	0.010	U	0.0063
cis-1,2-Dichloroethene	0.024	0.011	0.14	0.0097	0.029	0.010	0.017	0.010	U	0.0063
Trichloroethene	4.3	0.0078	7.8	0.036	0.51	0.0077	2.1	0.0075	U	0.0047
Tetrachloroethene	0.021	0.0062	0.10	0.0056	0.012	0.0061	0.034	0.0059	U	0.0037

Table 1.1a (cont) Results of the Analysis for VOC (ppbv) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

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Sample Number	018-SS-052208		003-CS-052208	
Sample Location	UNIT 018		UNIT 003	
Analyte	Result ppbv	RL ppbv	Result ppbv	RL ppbv
Vinyl Chloride	U	0.014	U	0.016
1,1-Dichloroethene	U	0.0093	U	0.010
trans-1,2-Dichloroethene	U	0.0063	U	0.010
cis-1,2-Dichloroethene	U	0.0093	0.033	0.010
Trichloroethene	12	0.068	33	0.15
Tetrachloroethene	0.14	0.0054	0.41	0.0059

Table 1.1b Results of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

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Sample Number	6/2/2008		006-CS-052008		005-CS-052008		004-CS-052008		003-CS-052008	
	Sample Location	Method Blank	Unit 006		Unit 005		Unit 004		Unit 003	
Analyte	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$								
Vinyl Chloride	U	0.025	U	0.036	U	0.037	U	0.036	U	0.038
1,1-Dichloroethene	U	0.025	U	0.036	U	0.037	U	0.036	U	0.038
trans-1,2-Dichloroethene	U	0.025	U	0.036	U	0.037	U	0.036	U	0.038
cis-1,2-Dichloroethene	U	0.025	U	0.036	U	0.037	U	0.036	0.071	0.038
Trichloroethene	U	0.025	3.7	0.036	0.075	0.037	0.17	0.036	130	0.38
Tetrachloroethene	U	0.025	1.3	0.036	0.20	0.037	0.18	0.036	2.2	0.038

Table 1.1b (cont) Results of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method : TO-15 SIM

Sample Number	015-CS-052008		6/3/2008		010-CS-052008		012-CS-052008		014-CS-052008	
	Sample Location	Unit 015	Method Blank	Unit 010	Unit 012	Unit 014	Unit 014	Unit 014	Unit 014	Unit 014
Analyte	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$								
Vinyl Chloride	U	0.036	U	0.025	U	0.038	U	0.040	U	0.037
1,1-Dichloroethene	0.042	0.036	U	0.025	U	0.038	U	0.040	U	0.037
trans-1,2-Dichloroethene	U	0.036	U	0.025	U	0.038	U	0.040	U	0.037
cis-1,2-Dichloroethene	U	0.036	U	0.025	U	0.038	U	0.040	U	0.037
Trichloroethene	0.26	0.036	U	0.025	0.082	0.038	30	0.040	0.24	0.037
Tetrachloroethene	120	0.36	U	0.025	0.33	0.038	3.1	0.040	0.19	0.037

Table 1.1b (cont) Results of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method : TO-15 SIM

Sample Number	6/6/2008		013-CS-052008		007-CS-052008		008-CS-052008		009-CS-052008	
	Sample Location	Method Blank	Unit 013	Unit 007	Unit 008	Unit 009	Unit 009	Unit 009	Unit 009	Unit 009
Analyte	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$								
Vinyl Chloride	U	0.10	U	0.16	U	0.12	U	0.15	U	0.15
1,1-Dichloroethene	U	0.10	U	0.16	U	0.12	U	0.15	U	0.15
trans-1,2-Dichloroethene	U	0.10	U	0.16	U	0.12	U	0.15	U	0.15
cis-1,2-Dichloroethene	U	0.10	0.40	0.16	U	0.12	0.25	0.15	U	0.15
Trichloroethene	U	0.10	9.4	0.16	1.3	0.12	23	0.15	21	0.15
Tetrachloroethene	U	0.10	0.32	0.16	0.21	0.12	0.58	0.15	0.26	0.15

Table 1.1b (cont) Results of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method : TO-15 SIM

Page 2 of 4

Sample Number	002-CS-052008		011-CS-052008		016-CS-052108		017-CS-052108		000-TB-052208	
Sample Location	Unit 002		Unit 011		Unit 016		Unit 017		Trip Check	
Analyte	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$								
Vinyl Chloride	U	0.13	U	0.16	U	0.15	U	0.16	U	0.10
1,1-Dichloroethene	U	0.13	U	0.16	U	0.15	U	0.16	U	0.10
trans-1,2-Dichloroethene	U	0.13	U	0.16	U	0.15	U	0.16	U	0.10
cis-1,2-Dichloroethene	U	0.13	U	0.16	0.42	0.15	U	0.16	U	0.10
Trichloroethene	U	0.13	1.7	0.16	72	0.15	U	0.16	U	0.10
Tetrachloroethene	1.5	0.13	0.20	0.16	0.72	0.15	U	0.16	U	0.10

Table 1.1b (cont) Results of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method : TO-15 SIM

Sample Number	000-FB-052208		6/9/2008		001-SS-052108	
Sample Location	Field Blank		Method Blank		Unit 001	
Analyte	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$
Vinyl Chloride	U	0.10	U	0.025	U	0.054
1,1-Dichloroethene	U	0.10	U	0.025	U	0.054
trans-1,2-Dichloroethene	U	0.10	U	0.025	U	0.054
cis-1,2-Dichloroethene	U	0.10	U	0.025	0.17	0.054
Trichloroethene	U	0.10	U	0.025	0.082	0.054
Tetrachloroethene	U	0.10	U	0.025	0.29	0.054

Table 1.1b Results of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method TO-15 SIM

Page 3 of 4

Sample Number	5/30/2008		016-AMB-052208		009-IND-052208		013-IND-052208		008-AMB-052208	
	Sample Location	Method Blank	UNIT 016		UNIT 009		UNIT 013		UNIT 008	
Analyte	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$								
Vinyl Chloride	U	0.025	U	0.039	U	0.040	U	0.041	U	0.047
1,1-Dichloroethene	U	0.025	U	0.039	U	0.040	U	0.041	U	0.047
trans-1,2-Dichloroethene	U	0.025	U	0.039	U	0.040	U	0.041	U	0.047
cis-1,2-Dichloroethene	U	0.025	U	0.039	U	0.040	0.092	0.041	U	0.047
Trichloroethene	U	0.025	0.85	0.039	0.61	0.040	2.4	0.041	0.21	0.047
Tetrachloroethene	U	0.025	0.13	0.039	0.053	0.040	0.15	0.041	0.097	0.047

Table 1.1b (cont) Results of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method : TO-15 SIM

Sample Number	008-IND-052208		003-IND-052208		016-IND-052208		6/2/2008		016-CS-052208	
	Sample Location	UNIT 008	UNIT 003	UNIT 016	Method Blank	UNIT 016	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$
Analyte	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$								
Vinyl Chloride	U	0.040	U	0.041	U	0.040	U	0.025	U	0.096
1,1-Dichloroethene	U	0.040	U	0.041	0.058	0.040	U	0.025	0.15	0.096
trans-1,2-Dichloroethene	U	0.040	U	0.041	U	0.040	U	0.025	U	0.096
cis-1,2-Dichloroethene	0.078	0.040	0.11	0.041	0.14	0.040	U	0.025	0.47	0.096
Trichloroethene	7.4	0.040	65	0.41	22	0.040	U	0.025	74	0.096
Tetrachloroethene	0.34	0.040	0.92	0.041	0.30	0.040	U	0.025	0.75	0.096

Table 1.1b (cont) Results of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method : TO-15 SIM

Sample Number	009-CS-052208		008-CS2-052208		013-CS-052208		008-CS1-052208		000-TB-052308	
	Sample Location	UNIT 009	UNIT 008	UNIT 008	UNIT 013	UNIT 008	UNIT 008	TRIP BLANK	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$
Analyte	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$								
Vinyl Chloride	U	0.042	U	0.038	U	0.042	U	0.040	U	0.025
1,1-Dichloroethene	0.11	0.042	U	0.038	U	0.042	U	0.040	U	0.025
trans-1,2-Dichloroethene	U	0.042	U	0.038	U	0.042	U	0.040	U	0.025
cis-1,2-Dichloroethene	0.097	0.042	0.54	0.038	0.11	0.042	0.069	0.040	U	0.025
Trichloroethene	23	0.042	42	0.19	2.8	0.042	11	0.040	U	0.025
Tetrachloroethene	0.14	0.042	0.69	0.038	0.081	0.042	0.23	0.040	U	0.025

Table 1.1b (cont) Results of the Analysis for VOC ($\mu\text{g}/\text{m}^3$) in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Method : TO-15 SIM

Page 4 of 4

Sample Number	018-SS-052208		003-CS-052208	
	Sample Location	UNIT 018	UNIT 003	RL
Analyte	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$	Result $\mu\text{g}/\text{m}^3$	RL $\mu\text{g}/\text{m}^3$
Vinyl Chloride	U	0.037	U	0.040
1,1-Dichloroethene	U	0.037	U	0.040
trans-1,2-Dichloroethene	U	0.037	U	0.040
cis-1,2-Dichloroethene	U	0.037	0.13	0.040
Trichloroethene	65	0.37	180	0.81
Tetrachloroethene	0.98	0.037	2.8	0.040

**Table 2.1 Results of the LCS Analysis for VOC in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site**

Page 1 of 2

Sample Number: 06/02/08

Analyte	LCS Spike Added ng	LCS Recovered ng	% Recovery	QC Limits % Recovery
Vinyl Chloride	0.495	0.420	85	64-125
1,1-Dichloroethene	0.555	0.552	99	68-118
trans-1,2-Dichloroethene	0.530	0.591	112 *	67-111
cis-1,2-Dichloroethene	0.540	0.581	108	62-121
Trichloroethene	0.545	0.522	96	67-116
Tetrachloroethene	0.520	0.505	97	56-133

Sample Number: 06/03/08

Analyte	LCS Spike Added ng	LCS Recovered ng	% Recovery	QC Limits % Recovery
Vinyl Chloride	0.495	0.445	90	64-125
1,1-Dichloroethene	0.555	0.603	109	68-118
trans-1,2-Dichloroethene	0.530	0.613	116 *	67-111
cis-1,2-Dichloroethene	0.540	0.606	112	62-121
Trichloroethene	0.545	0.561	103	67-116
Tetrachloroethene	0.520	0.542	104	56-133

Sample Number: 06/06/08

Analyte	LCS Spike Added ng	LCS Recovered ng	% Recovery	QC Limits % Recovery
Vinyl Chloride	24.8	24.7	100	61-127
1,1-Dichloroethene	27.8	29.6	106	77-116
trans-1,2-Dichloroethene	26.5	27.1	102	74-118
cis-1,2-Dichloroethene	27.0	27.5	102	74-117
Trichloroethene	27.3	26.8	98	80-116
Tetrachloroethene	26.0	27.8	107	77-118

Sample Number: 06/09/08

Analyte	LCS Spike Added ng	LCS Recovered ng	% Recovery	QC Limits % Recovery
Vinyl Chloride	0.495	0.407	82	64-125
1,1-Dichloroethene	0.555	0.490	88	68-118
trans-1,2-Dichloroethene	0.530	0.472	89	67-111
cis-1,2-Dichloroethene	0.540	0.474	88	62-121
Trichloroethene	0.545	0.479	88	67-116
Tetrachloroethene	0.520	0.480	92	56-133

Table 2.1 Results of the LCS Analysis for VOC in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Page 2 of 2

Sample Number: 05/30/08

Analyte	LCS Spike Added ng	LCS Recovered ng	% Recovery	QC Limits % Recovery
Vinyl Chloride	0.495	0.476	96	64-125
1,1-Dichloroethene	0.555	0.593	107	68-118
trans-1,2-Dichloroethene	0.530	0.587	111	67-111
cis-1,2-Dichloroethene	0.540	0.655	121	62-121
Trichloroethene	0.545	0.555	102	67-116
Tetrachloroethene	0.520	0.500	96	56-133

Table 2.2 Results of the Duplicate Analysis for VOC in Air
WA # 0-324 Vapor Intrusion Pathway Assessment - Delfasco Forge Site

Page 1 of 1

Sample Number: 014-CS-052008

Analyte	Initial Analysis	Duplicate Analysis	QC Limits	
	ppbv	ppbv	% RPD	% RPD
Vinyl Chloride	U	U	NC	25
1,1-Dichloroethene	U	U	NC	25
trans-1,2-Dichloroethene	U	U	NC	25
cis-1,2-Dichloroethene	U	U	NC	25
Trichloroethene	0.0440	0.0434	1	25
Tetrachloroethene	0.0280	0.0270	3	25

Sample Number: 013-CS-052008

Analyte	Initial Analysis	Duplicate Analysis	QC Limits	
	ppbv	ppbv	% RPD	% RPD
Vinyl Chloride	U	U	NC	25
1,1-Dichloroethene	U	U	NC	25
trans-1,2-Dichloroethene	U	U	NC	25
cis-1,2-Dichloroethene	0.100	0.100	0	25
Trichloroethene	1.75	1.78	2	25
Tetrachloroethene	0.0479	0.0450	6	25

Sample Number: 016-CS-052208

Analyte	Initial Analysis	Duplicate Analysis	QC Limits	
	ppbv	ppbv	% RPD	% RPD
Vinyl Chloride	U	U	NC	25
1,1-Dichloroethene	0.0376	0.0385	3	25
trans-1,2-Dichloroethene	U	U	NC	25
cis-1,2-Dichloroethene	0.118	0.117	0	25
Trichloroethene	13.9	14.1	0	25
Tetrachloroethene	0.111	0.112	0	25

Sample Number: 016-AMB-052208

Analyte	Initial Analysis	Duplicate Analysis	QC Limits	
	ppbv	ppbv	% RPD	% RPD
Vinyl Chloride	U	U	NC	25
1,1-Dichloroethene	U	U	NC	25
trans-1,2-Dichloroethene	U	U	NC	25
cis-1,2-Dichloroethene	U	U	NC	25
Trichloroethene	0.157	0.158	0	25
Tetrachloroethene	0.0190	0.0190	0	25

Lockheed Martin Technology Services
Environmental Services REAC
2890 Woodbridge Avenue Building 209 Annex
Edison, NJ 08837-3679
Telephone 732-321-4200 Facsimile 732-494-4021

LOCKHEED MARTIN 

Columbia Analytical Inc.
2655 Park Center Drive Suite A
Simi Valley, CA 93065

Attn: Kate Aguilera

May 14, 2008

As per Lockheed Martin / REAC Value Contract 46032343 for Project 0-324, please analyze samples according to the following parameters:

Analysis/Method	Matrix	# of samples
VOA/TO-15 SIM See attached compound list	Summa	40

Samples are expected to arrive at your laboratory the on May 23, 2008. Preliminary sample and QC result tables plus a signed copy of our Chain of Custody must be sent to REAC 10 business days after receipt of the samples. The complete data package is due 15 business days after receipt of the samples. The complete data package must include all items on the deliverables checklist. **The laboratory must provide documentation for individual summa canister and flow controller certification.**

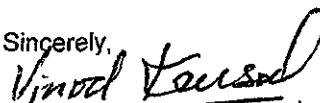
All sample and QC results must be summarized in a tab delimited file diskette deliverable. Units must be in ppbv and ug/m3 in the electronic deliverable. See checklist for EDD field needed.

All summa canisters and 24hr preset orifices must arrive at Site(see below) by May 19, 2008. The flow controllers should have 1/4 inch fittings.

Hampton Inn-North Arlington
2050 North Highway 360
Grand Prairie, Texas 75050
Attn. Bill Weeks

Please submit all reports concerning this project to **John Johnson** at **(732) 321-4248 or fax to (732) 494-4020 or john.m.johnson@lmco.com**. Any contractual question, please call Joe Rosenberger (732) 321-4215.

Sincerely,



Vinod Kansal
Analytical Section Leader
Lockheed Martin / REAC Project

VK:jj Attachments

cc. R. Singhvi
D. Mickunas
0324\non\mem\0805\sub\0324Con

V. Kansal
Subcontracting File
J. Soroka

J. Rosenberger
J. Wood

VOC Compound List for Project 0324

	Requested Reporting Limit ppbv
Vinyl Chloride	0.070
cis 1,2-Dichloroethene	0.070
Trichloroethene (TCE)	0.070
Tetrachloroethene (PCE)	0.070
1,1-Dichloroethene (1,1-DCE)	0.070
trans-1,2-Dichloroethene	0.070

Reporting limit should be after normal dilution between
1-2x

EPA / ERT

REAC, Edison, N.J.

REAC, Edison, NJ
EPA Contract Number: EP-C-04-032

CHAIN OF CUSTODY RECORD

Site #: 0-324

Contact Name: John Johnson
Contact Phone: 732-321-4284

POS01555
No: 0-324-052008-001

No: 0-324-052008-001

Lab: Columbia Analytical
Lab Phone: 805-526-7161

Page 1 of 1

EPA / ERT

REAC, Edison, NJ

EPA Contract Number: EP-C-04-032

CHAIN OF CUSTODY RECORD

Site #: 0-324

Contact Name: John Johnson

Contact Phone: 732-321-4284

No: 0-324-052208-002

Lab: Columbia Analytical

Lab Phone: 805-526-7161

PO601555

Lab #	Sample #	Location	Numb Cont	Container	Matrix	Analyses	Start Pressure	Stop Pressure	Volume	Vol Units	Stop_Date	Stop_Time	Total_Time
(5)	015-CS-052008	Unit 015	1	Summa Canister	Soil Gas	TO-15 SIM	29	7.5	5.14	Liters	5/21/2008	7:02:00 PM	1381
(6)	014-CS-052008	Unit 014	1	Summa Canister	Soil Gas	TO-15 SIM	29	6	5.18	Liters	5/21/2008	6:26:00 PM	1373
(7)	013-CS-052008	Unit 013	1	Summa Canister	Soil Gas	TO-15 SIM	29	4	4.5	Liters	5/21/2008	6:07:00 PM	1375
(8)	012-CS-052008	Unit 012	1	Summa Canister	Soil Gas	TO-15 SIM	29	5	4.7	Liters	5/21/2008	5:55:00 PM	1432
<i>05-22-08</i>													
<i>QA/QC J. Ward 5/22/08</i>													
<i>PR/MS/LL</i>													
<i>-4.6</i>													
<i>-5.2</i>													
<i>-7.8</i>													
<i>-6.8</i>													

Special Instructions: All analysis (TO-15 SIM)

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

Items/Reason	Relinquished by	Date	Received by	Date	Time	Items/Reason	Relinquished By	Date	Received by	Date	Time
All analyses	Columbia	05/22/08	John Ward	05/22/08	04:25						

EPA / ERT

REAC, Edis

EPA Contract Num

EPA Contract Number: EP-C-04-032

CHAIN OF CUSTODY RECORD

Site # 0-324

Contact Name: John Johnson
Contact Phone: 732-321-4284

No: 0-324-052008-003

No: 0-324-052008-003

Lab: Columbia Analytical
Lab Phone: 805-526-7161

Lab #	Sample #	Location	Numb Cont	Container	Matrix	Analyses	Start Pressure	Stop Pressure	Volume	Vol Units	Stop_Date	Stop_Time	Total_Ti me
(9)	007-CS-052008	Unit 007	1	Summa Canister	Soil Gas	TO-15 SIM	29	0.5	5.9	Liters	5/21/2008	11:22:00 AM	1406
(10)	008-CS-052008	Unit 008	1	Summa Canister	Soil Gas	TO-15 SIM	29	5.2	4.9	Liters	5/21/2008	2:35:00 PM	1453
(11)	009-CS-052008	Unit 009	1	Summa Canister	Soil Gas	TO-15 SIM	29	4.8	5	Liters	5/21/2008	3:08:00 PM	1432
(12)	010-CS-052008	Unit 010	1	Summa Canister	Soil Gas	TO-15 SIM	29	6.1	4.7	Liters	5/21/2008	4:30:00 PM	1433

05-22-08

affidato

Special Instructions: All analysis (TO-15 SIM)

QA/QC John Ewald 5/22/08

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

EPA / ERT

REAC, Edison, NJ

EPA Contract Number: EP-C-04-032

CHAIN OF CUSTODY RECORD

Site #: 0-324

Contact Name: John Johnson

Contact Phone: 732-321-4284

P0801536

No: 0-324-052008-004

Lab: Columbia Analytical

Lab Phone: 805-526-7161

Special Instructions:

~~QA/QC~~ John Ward 5/22/08

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

EPA / ERT

REAC, Edison, NJ

EPA Contract Number: EP-C-04-032

CHAIN OF CUSTODY RECORD

Site #: 0-324

Contact Name: John Johnson
Contact Phone: 732-321-4284

No: 0-324-052208-005

No: 0-324-052208-005

Lab: Columbia Analytical
Lab Phone: 805-526-7161

Lab #	Sample #	Location	Numb Cont	Container	Matrix	Analyses	Pump #	OrificeID	Start Pressur e	Stop Pressur e	Volum e	Vol Units	Stop_Date	Stop_Ti me	Total Time
(17)	017-CS-052108	Unit 017	1	Summa Canister	Soil Gas	TO-15 SIM	AC01309	FC00115	29	8.8	4.2	Liters	5/22/2008	4:16:00 PM	1372
(18)	000-TB-052208	Trip Check	1	Summa Canister	NA		AC00762		29			Liters	5/22/2008		
(19)	000-FB-052208	Field Blank	1	Summa Canister			AC01101		29				5/22/2008		

Special Instructions:

QA/QC

John Wood

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #

**R&AC, E., NJ
(732) 321-4200**

PA CONTRACT EP-C-04-032

24

-DAR-

CHAIN OF CUSTODY RECORD

Project Name: _____

Project Number: 0-324

LM Contact: JOHN JOHNSON Phone: 732 321 4200

9680 .cc

No: 40061

Sheet 01 of 01 (Do not copy)
(for addnl. samples use new form)

Sample Identification

Analyses Requested

REACH#	Sample No	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	SUMMA #	ANALYSES	
①	016-CS-052208	UNIT 016	A	5/23/08	1	SUMMA / NONE	AC00386	To-15	-6.3
②	009-CS-052208	UNIT 009	A	5/23/08	1	SUMMA / NONE	AC01206	To-15	-10.7
③	016-AMB-052208	UNIT 016	A	5/23/08	1	SUMMA / NONE	AC01381	To-15	-6.8
④	009-IND-052208	UNIT 009	A	5/23/08	1	SUMMA / NONE	AC01455	To-15	-7.5

Matrixx

Special Instructions:

A- Air
AT-Animal Tissue
DL- Drun Liquids
DS- Drun Solids
GW- Groundwater
O- Oil
PR-Product
PT-Plant Tissue

PW- Potable Water
S- Soil
SD- Sediment
SL- Sludge
SW- Surface Water
TX-TCLP Extract
W- Water
X- Other

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #:

RHAC, E., NJ
(732) 321-4200

0 SEPAC CONTRACT EP-C-04-032

CHAIN OF CUSTODY RECORD

Project Name: 0-324
Project Number: 0-324
LM Contact: JOHN JOHNSON Phone: 732 321 4200

Postle

No: 40062

Sheet 01 of 01 (Do not copy)
(for addnl. samples use new form)

Sample Identification

Analyses Requested

REACH #	Sample No.	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	SUMMA #	ANALYSES	
(3)	008-CS2-052208	UNIT 008	A	5/23/08	1	SUMMA / NONE	AC01493	To-15	-8.8
(6)	013-CS -052208	UNIT 013	A	5/23/08	1	SUMMA / NONE	AC01061	To-15	-7.9
(7)	013-IND-052208	UNIT 013	A	5/23/08	1	SUMMA / NONE	AC01441	To-15	-7.7
(2)	008-CS1-052208	UNIT 008	A	5/23/08	1	SUMMA / NONE	AC00845	To-15	-7.6

Maurizio

Special Instructions:

A- Air	PW- Potable Water
AT-Animal Tissue	S- Soil
DL- Drum Liquids	SD- Sediment
DS- Drum Solids	SL- Sludge
GW- Groundwater	SW- Surface Water
O- Oil	TX-TCLP Extract
PR-Product	W- Water
PT-Plant Tissue	X- Other

**SAMPLES TRANSFERRED FROM
CHAIN OF CUSTODY #:**

REAC, E. NJ

(732) 321-4200

CPA CONTRACT EP-C-04-032

CHAIN OF CUSTODY RECORD

Project Name: _____
Project Number: 0-324
LM Contact: JOHN JOHNSON Phone: 732 321 4200

No: 40063

90801566

Sheet 01 of 01 (Do not copy)
(for addnl. samples use new form)

Sample Identification

Analyses Requested

Matrix;

Special Instructions:

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #:

A-Air
AT-Animal Tissue
DL-Drum Liquids
DS-Drum Solids
GW-Groundwater
O-Oil
PR-Product
PT-Plant Tissue

PW- Potable Water
S- Soil
SD- Sediment
SL- Sludge
SW- Surface Water
TX-TCLP Extract
W- Water
X- Other

REAC, Inc., NJ
(732) 321-4200

CEPA CONTRACT EP-C-04-032

Project Number: 14321
Contract EP-C-04-032

CHAIN OF CUSTODY RECORD

Project Name: _____

Project Number: 0-324

LM Contact: JOHN JOHNSON Phone: 732-321-4200

9080 1586

40064

No: 40064

Sheet 01 of 01(Do not copy)
(for addnl. samples use new form)

Sample Identification

Analyses Requested

REACH#	Sample No	Sampling Location	Matrix	Date Collected	# of Bottles	Container/Preservative	SUMMA #	ANALYSES	
(12)	018-SS-052208	UNIT 018	A	5/23/08	1	SUMMA / NONE	AC01017	To-15	.7.9
(13)	003-CS-052208	UNIT 003	A	5/23/08	1	SUMMA / NONE	AC00948	To-15	.7.5
(17)	003-IND-052208	UNIT 003	A	5/23/08	1	SUMMA / NONE	AC01349	To-15	.7.7
(15)	016-IND-052208	UNIT 016	A	5/23/08	1	SUMMA / NONE	AC01342	To-15	.7.6

Matrix

Special Instructions:

A- Air
AT-Animal Tissue
DL- Drum Liquids
DS- Drum Solids
GW- Groundwater
O- Oil
PR-Product
PT-Plant Tissue

PW- Potable Water
 S- Soil
 SD- Sediment
 SL- Sludge
 SW- Surface Water
 TX-TCLP Extract
 W- Water
 X- Other

SAMPLES TRANSFERRED FROM

CHAIN OF CUSTODY #: